THE DEVELOPMENT OF *–FREE* AND ITS COMPETITION WITH THE SUFFIX *–LESS*: A CORPUS-BASED STUDY

Thesis submitted

in accordance with the requirements

of the University of Liverpool for the degree

of Doctor of Philosophy in the faculty of Humanities and Social Sciences

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January 2016

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Abbreviations

1. GENERAL

§	Section
adj.	Adjective
n.	Noun
OED	*Oxford English Dictionary*
MED	*Middle English Dictionary*
CDA	Critical Discourse Analysis

2. HISTORICAL PERIODS

OE	Old English
ME	Middle English
EModE	Early Modern English
LModE	Late Modern English
PDE	Present Day English

3. CORPORA

HCET	Helsinki Corpus of English Texts
CCEES	Corpus of Early English Correspondence Sampler
PPCMBE	Penn Parsed Corpus of Modern British English
CLMET	Corpus of Late Modern English Texts
CLMETEV	Corpus of Late Modern English Texts (extended version)
ARCHER	Representative Corpus of Historical English Registers
BNC	British National Corpus
COCA	Corpus of Contemporary American English

The Development of *–free* and its Competition with the Suffix *–less*: A Corpus-Based Study

A Ph.D. thesis submitted by Monika Grabias.

Abstract

Standard grammars classify the combinations with *–free* as non-hyponymic adjective-centred compounds (Huddleston and Pullum 2002:1646). Górska (1994 and 2001) is the first to refer to them as derivatives and discuss their meaning relation with adjectives ending in *–less*. She proposes a cognitive differentiation between their formations, suggesting that they differ with regards to meaning evaluation and human participation as well as conceptual metaphors they express. She also suggests that the privative adjectives in English are undergoing a change, but since her approach is synchronic, she does not analyse it further.

My dissertation aims to investigate that change by providing a systematic examination of dictionary entries and corpora occurrences and explaining how *–free* evolved in the history of English. It also accounts for the resulting competition between counterparts ending in both *–free* and *–less* as well as the possible social and cultural changes that underlie the creation of combinations with *–free* which tend to be the more recent members of the pairs.

It is divided in two parts. The first part is a diachronic investigation of the origins of *–free*. It explores the change of meaning expressed by its formations and the development of present-day combinations by means of the change of semantic functions (according to Huddleston and Pullum 2002) and grammar patterns (following Pattern Grammar by Francis et al. (1996 and 1998)). Since the results of my examinations suggest that *–free* might be a result of grammaticalisation, I continue to review traditional parameters (Lehmann 1995) and principles (Hopper 1991) as well as follow other successful studies of grammaticalisation from adjectives to suffixes in order to analyse the grammaticalisation of *–free*.

The second part focuses on five representative pairs ending in *–free* and *–less*, i.e. *carefree*/*careless*, *child-free*/*childless*, *pain-free*/*painless*, *sugar-free*/*sugarless* and *value-free*/*valueless*. It investigates positive and negative evaluations (according to the positive/negative parameter by Hunston and Thomson 2000) associated with them, their collocates as well as collocate networks that I manually create (following Williams 1998 and Baker 2006) and compares their genre distribution.

This study is innovative in providing an account of the origins of the combinations with *–free* in the history of English and proposing that it is undergoing grammaticalisation and becoming an adjectival suffix. It also investigates the relation of *–free* with *–less*, another suffix that developed from an adjective through grammaticalisation.

Declaration

I declare that this thesis is my own work and has not been submitted in any form for the award of a higher degree elsewhere.

Acknowledgements

My utmost gratitude must be expressed to my supervisor, Dr Victorina González-Díaz, for her help and support during my doctoral studies, and also before this, during my time as a master's student at Liverpool University and as an Erasmus student at the University of Vigo. Without her inspiration and encouragement, this thesis would not have been successfully completed.

I am also very grateful to many other people in the Department of English at Liverpool University, especially to my secondary supervisors, Dr Sofia Lampropoulou and Mr Geoff Thompson. My gratitude goes also to Prof. Paul Baines for giving me the opportunity to gain valuable teaching experience and making me aware of scholarships available in our department.

Thanks also to several people at the São Paulo State University, especially to Dr Regiani Santos-Zacarias, who hosted me there during my teaching exchange in Brazil as well as Prof. Sérgio Augusto-Zanoto and his wife Mauren for making m e feel at home and helping me learn Portuguese during my stay. Moreover, I would like to thank the British Council Brazil for making the exchange possible.

I am grateful to my friends, in particular to Shereen, Vicki, Ewelina P., Jan, Pat, Monika, Ewelina R., Paulina, Iza and Gosia for always being there for me and convincing me that I can do it. Many thanks also to my friends from the department, especially Leimar and Maria, who answered plenty of my PhD related questions over the years.

Last but not least, I am indebted to my family for all of the encouragement and belief in me. My biggest thanks go to my parents, Krystyna and Leonard, as well as my siblings, Ewa, Slawek, Pawel, Ania and Jacek, who have always supported me in ways that are too plentiful to list. They are all a real inspiration to me in my education and in my life in general.

Chapter 1. Introduction

1.1 Preliminaries

This study deals with adjectival suffixation in English. In particular, it addresses the development of new forms and the resulting competition with the existing ones due to expressing similar meanings and being attached to the same bases. The present section will briefly review the most notable studies that were a source of inspiration with regards to the topic of my thesis as well as guidance in terms of its methodology.

The main source of information for linguists, before the introduction of electronic corpora, were dictionaries and the examination of printed texts. One of the standard works compiled using this methodology is Marchand (1969) which discusses all current derivative processes and draws attention to ambiguities, suggesting topics for investigation. There have been many studies focusing on specific cases within derivational morphology since then.

The suffixes that seem to have received the most attention are *–ic* and *–ical*. Ross (1998) revises available literature and uses dictionaries to examine the meanings of their derivatives, presenting the variation between the two suffixes as a language change in progress. According to him, the possible result of this competition would be eventual loss of the longer *–ical* and keeping shorter *–ic* forms (Ross 1998:41-43).

Kaunisto (1999) uses corpora in his investigation and starts from studying their use in present-day newspapers, focusing on two pairs: *economic*/*economical* and *classic*/*classical*, with regards to the differences between their uses, meanings and collocations. His analysis suggests that the former pair can be considered basically synonymous in PDE but still displays difference with regards to their most frequent collocates (Kaunisto 1999:348-355). The latter pair stands apart more— *classic* implies a positive value judgment and being representative of a type; *classical* is more often used with regards to the Greek and Roman historical culture, classicism and styles of music.

In his next study, Kaunisto (2001) concentrates on the adjectives in *–ic* and *–ical* in the earlier periods in the English language, analysing dictionaries and corpora consisting of texts from the period from 1513 to 1839. He notices a tendency visible at that time among some of the pairs which do not show much semantic differentiation (e.g. *majestic*/ *majestical*); namely, that the longer form is being lost and it is the *–ic* adjective that tends to take over the meaning and uses. These findings are in agreement with the suggestions made by Ross (1998) (see above).

Kaunisto's final publication on this topic is a book (Kaunisto 2007) based on his doctoral dissertation from 2004. He carries out a detailed corpus-based analysis of six adjectival pairs ending in *–ic* and *–ical* that he found to have some semantic differences, discusses their etymologies, meanings provided by the available sources as well as a corpus analysis of their usages. The author also analyses the cases where one of the variants from pairs was lost in the history of English as well as mentions the pairs which are usually explained in language manuals due to representing clearly different meanings.

The difference and competition between *–ic* and *–ical* has been investigated further. Gries (2001) attempts to improve their previous corpus and dictionary based analyses and applies contemporary techniques available within corpus linguistics to interpret corpus search results. He synthesises Tversky's (1977) model of asymmetric similarity and Biber's (1993) test of meaning similarity into the Estimation of Significant Collocate. The latter technique seems to help to differentiate between the pairs of adjectives better than the previous ones; for example, it proved that some pairs previously considered as carrying the same meaning (e.g. *logistic*/*logistical*) turn out to have different collocational patterns (Gries 2001:100-102).

Gries (2003) revisits the topic of the nature of relation between the meaning of pairs in *–ic* and *–ical*. In this study, he uses Church et. al's (1994) sub-test and Dunning's (1993) log likelihood test and reports that certain *–ic* and *–ical* adjectival pairs display semantic and distributional distinctions and that they "can be located on a continuum of semantic similarity, with some being virtually completely synonymous and others being strongly differentiated" (Gries 2003:31), which seems

to suggest that there are no set relations between the counterparts ending in the two suffixes.

Another pair of adjectival suffixes, i.e. *–ive* and *–ory*, has been investigated by Kaunisto (2009). He uses dictionaries and corpora, and focuses on ten pairs which seem to have resolved the competition among their members in one of three ways: some turn out to represent fairly different meanings (e.g. *compulsive*/*compulsory*), some are similar but used in different contexts (e.g. *derisive*/*derisory*), and some seem synonymous but with one form predominant in use (e.g. *illusive*/*illusory*) (Kaunisto 2009:86).

The studies discussed so far concern suffixal competition within the same functional domain. Another type of research crucial for this thesis are historical accounts of suffixes and their development.

Dalton-Puffer (1997) explores the history of Middle English de-verbal suffixes: native *–lic* which had disappeared, and *–able* that was later borrowed from French to perform a similar function in ME. She proposes a 'Simple Domain Principle', i.e. that "one meaning [should] be expressed by one and the only form" as well as series of scenarios, attempting to explain why and how the borrowing happened, leaning towards the derivation-internal scenario but at the same time admitting that it most probably was a combination of more of them (Dalton-Puffer 1997:49-53).

Next, in Dalton-Puffer (2007), she examines all of the OE forerunners of *–able* that used to express similar meaning i.e. *–ig*, *–ful*, *–sum* and *–lic*. Still, she argues that *–lic* was the most probable one due to the fact that it was the only one that also represented the modal possessive adjective meaning among its formations (Dalton-Puffer 2007:45)

Dalton-Puffer and Plag (2000) investigate *–ful*, *–type* and *–wise*. In that study, they focus on establishing whether the grammatical statuses of the three should be considered as suffixation or compounding, disapproving of using terms such as 'semi-suffix'. After providing a deeper insight into their natures, they classify the formations with *–type* as compounds and the ones with *–ful* and *–wise* as suffixations (Dalton-Puffer and Plag 2000:242).

The suffix *–ful* is examined again by Holmqvist and Płuciennik (1996), who investigate its relationship with *–less* from a cognitive point of view. They demonstrate that both suffixes indicate derivations from a normal state, referring to the expected whole in the case of *–ful* and to parts of an expected whole with *–less*. According to them, the difference between the two and the reason for *–ful* and *–less* sometimes appearing in pairs lies in the difference of our expectations, as *–ful* with regards to the expected amount and *–less* with regard to missing parts (Holmqvist and Płuciennik 1996:25).

The relation between *–free* and *–less* has so far only been addressed by Górska (1994 and 2001). In her first study, she argues that the adjectives in *–less* imply a negatively evaluated resultant state, where a part is removed from a whole. The course of these events is beyond human control and is viewed objectively (Górska 1994:419-421). The adjectives ending in *–free* seem to represent just the opposite—a subjectively viewed positive state that has been obtained by a human agent who intentionally changed the previous state to improve it (Górska 1994:421-422). With regards to the conceptual metaphors that she claims they express, the derivatives with *–less* are related to body parts (e.g. *legless*), relatives/people close to us (e.g. *motherless*) and attributes/properties (e.g. *moonless*). The combinations with *–free* are, according to Górska (1994), only found to denote the last, i.e. attributes/properties (e.g. *smoke-free*) (Górska 1994:429).

She returns to the very same topic in Górska (2001), after noticing two groups of formations with *–less* that do not fall into the categories she set previously. One group concerns the adjectives which do not match her meaning evaluation and/or missing part of a whole theory, such as *problemless* and *endless* but, as she says, they still evoke a state that is beyond human control to change. The other group does not seem to be in agreement with her previous argument about intentionality and is represented by examples such as *paperless* and *cordless*. However, Górska (2001) explains that they do so, as it is the reality that changed and both of these states simply describe what has already become an expected course of events. The change that she notices in these groups is increasing subjectivity of the meaning

carried by the adjectives in *–less*, which might mark a change in progress within the privative[1] group of adjectives in general (Górska 2001:198-199).

My study will provide further insight into the combinations with *–free* and their relationship with *–less*. I believe that this topic needs more research for three reasons. First, there has never been an account of the origins and evolution of *–free*. Second, the types of combinations with *–free* have increased since Górska investigated them and the meanings they express changed. Third, the combinations with *–free* have developed counterparts to the derivatives with *–less*, formed with the same bases, the relation between which has never been examined (also, see §1.6 for rationale).

1.2 Content and organisation of the thesis

As noted in §1.1 above, the following chapters of this thesis aim to account for the meaning and structural development of *–free* as well as the meaning relation between members of the investigated pairs ending in *–free* and *–less*.

Chapter 2 focuses on two aspects of the origins of the combinations with *–free*. First, it examines the evolution of meanings expressed by the combinations, using available dictionaries of all periods and corpora of LModE and PDE. Second, it investigates their development from the independent adjective *free*, especially from the LModE period when the new types of combinations start being coined and their use rapidly increases, using Pattern Grammar framework (Hunston et al. 1996 and 1998) and analysing changes in their syntactic functions (according to Huddleston and Pullum 2002:528-529). It also compares the uses of adjective *free* and the combinations with regards to genres in which they appear in the corpora as well as text authors' genders and age.

In Chapter 3, I discuss grammaticalisation theory and the parameters (Lehmann 1995), principles (Hopper 1991) and processes (such as *reanalysis* and *analogy*) traditionally used to analyse it. I also review previous cases of grammaticalisation of adjectives into suffixes (Van Goethem 2011, Bauer 2007,

[1] Privative adjectives express the meaning 'lacking something', such as in *legless* (Spencer 2013:357).

Welna 2000) and consider if the development of combinations with *–free* could be undergoing this process of language change.

Chapter 4 analyses the competition between five pairs ending in *–free* and *–less*: *carefree*/*careless*, *child-free*/*childless*, *pain-free*/*painless*, *sugar-free*/*sugarless* and *value-free*/*valueless*. It reviews their dictionary entries and examines their occurrences in PDE corpora. The differences in meaning and use between the counterpart members of the pairs are analysed using Huston and Thompson's (2000) positive/negative parameter to assess their evaluation as well as collocation lists, collocational networks (following Williams 1998 and Baker 2006) and genres in which they are found, all to account for contexts in which they tend to be used. Additionally, since this chapter's methodology is inspired by corpus-based critical discourse analysis (see, for example, Fairclough 2003 or Baker 2006), I also discuss possible social and cultural changes that become apparent by the development of the combinations.

Overall, the thesis is organised to provide an account of the evolution of *–free* and to discuss its present-day status as well as use, especially as contrasted with the derivatives with *–less* formed with the same nominal bases.

1.3 *–Free* in previous lexicographic sources

The combinations with *–free* are a comparatively recent phenomenon. Although a number of them were acknowledged by earlier dictionaries, they only started to be mentioned by grammarians in the twentieth century. *–Free* has not yet received an entry in the OED as a formative, but its meaning and uses have been described by some grammarians and are reviewed in this section.

Standard accounts of *–free* combinations classify them as noun-adjective compounds. However, as their salience increased, so did the amount of details provided about them in grammars. At first, they were represented by single examples mentioned among other types of similar expressions. Zandvoort (1950) includes *carefree* next to other compounds with restrictive meanings such as *colour-blind* and *waterproof* (Zandvoort 1950:315). Adams (1973) remarks on the example

of *fancy-free* and says it "could also be paraphrased 'free from fancies'" (Adams 1973:9).

The first reference work that mentions significantly more examples of combinations with *–free* is one of the most outstanding works on English word-formation written by Marchand (1969). He includes *carefree*, *dutyfree*, *postfree*, *rentfree*, *scotfree*, *taxfree*, *tollfree* among *colourblind* type of compounds and argues that they are very productive patterns (Marchand 1969:85-87).

The Collins COBUILD English Grammar (1990:87-88) introduces some of the more recent combinations and proposes a more detailed classification. It quotes *duty-free*, *interest-free*, *lead-free*, *nuclear-free*, *tax-free* as compound classifying adjectives, i.e. ones that place people or things into categories or classes. It also mentions *trouble-free* as an example of compound qualitative adjective, which describes qualities.

The source that discusses the combinations with *–free* in the greatest detail is Huddleston and Pullum (2002). They mention *cholesterol-free* as an example of adjective-centered compounds (Huddleston and Pullum 2002:1646) and argue that "it is non-hyponymic[2] because *free* in the sense it has here cannot stand alone as a phrase but requires a complement" (Huddleston and Pullum 2002:1645).

Moreover, they give both *tax-free* and *cholesterol-free* as examples of incorporated complement/modifier, "comparable to syntactic constructions where the adjective has a following PP as dependant", i.e. *free from tax* and *free from cholesterol* (Huddleston and Pullum 2002:1657). According to them, *free* meaning both "'not having to pay', as in *tax-free*" and "'not containing', as in *cholesterol-free*" is exceptionally productive (Huddleston and Pullum 2002:1657).

The grammars discussed above do not suggest that the ending *–free* could be in the process of change into a suffix. They do, however, imply its growth in productivity and classify *–free* as the same compound type *–less* used to be, before

[2] "[N]on-hyponymic compounds are commonly called 'exocentric'" (Huddleston and Pullum 2002:1645 fn20). They are compounds that lack a semantic head. For example, a *white-collar* is not 'white' or a 'collar'. It denotes a person "engaged in non-manual work" (OED; *white-collar*, n. and adj.).

it became a suffix (i.e. the *colour-blind* type). The review of historical approaches towards *–less* is provided below (in §1.4).

1.4 *–Less* in previous lexicographic sources

According to the OED, *–less* has been present in English from the OE period, as an adjective used in the genitive, both separately from the noun with which it occurs and as a second element of compounds, carrying the meaning 'devoid (of)', 'free (from)' (OED; *–less*, suffix). Even though the combinations with *–less* became very productive already in Middle English, it has been accepted as a suffix relatively recently.

Sundby (1995) provides a review of attitudes towards word-formation between 1600 and 1800. He lists the grammarians who treat *–less* as a suffix and its combinations as derivatives, as well as those ones who classify them as compound adjectives (Sundby 1995:56-57 and 73-74). In some cases, he also points out inaccuracies in descriptions which prove lack of consensus with regards to their status at the time. For instance, he refers to Dixon (1728:24), who classifies *hopeless* as a derivative and *endless* as a compound. He also mentions Priestley, who lists *–less* as a derivative ending in his *Rudiments of English Grammar* (1761:30) but categorises *hopeless* as a 'compound' in *A Course of Lectures on the Theory of Language and Universal Grammar* (1762:142-44) (Sundby 1995:74).

The voices that *–less* is not a fully developed suffix continued appearing until the twentieth century. Earle (1887) claims that even though the list of adjectives ending in *–less* is long, it is still "edging on the border that separates our present subject [i.e. affixation] from adjectival compounds" (Earle 1887:386).

However, the majority of grammarians and linguists towards the end of the nineteenth and twentieth century started to recognise it as a suffix (see, for example, Morris (1893:90), Jespersen (1942:420-21; 1949:44) and Marchand (1969:291 and 324-5). Marchand (1969) mentions that the suffix *–less* originated as a *colourblind* type of compound (Marchand 1969:87). This standardisation might be a result of "an objectivising, generalising style" that took place in the eighteenth century and prompted revalorisation of linguistic elements (Adamson 1998:662).

The most recent comprehensive grammars such as Huddleston and Pullum (2002) classify *–less* as a suffix without any doubts (Huddleston and Pullum 2002:1709 and 1711).

As presented above, *–less* was associated with its compound-like use for hundreds of years before it was fully recognised as a suffix. It originated from an adjective which developed into a *colour-blind* type of compound, similarly to *–free*, as discussed in the previous section (§1.3).

1.5 General methodology

1.5.1 Corpora

Electronic corpora and specialised computer software allow us to investigate even the most detailed linguistic phenomena in their context of use and have thus become very useful in language research. Not only does it enable one to track the development of a linguistic structure in time but also to detect variant expressions and differences between their uses in a systematic way. This is the reason why the approach used in this thesis is corpus-based.

Some of the advantages of this methodology are specified by Gries (2001). He argues that the data obtained from corpora are "more natural than those obtained from dictionaries and literature", "more representative" due to diversity of speakers (and, for example, their level of education) and materials used, "gathered and evaluated objectively", and "less likely to be distorted by prescriptive attitudes and experimental effects" (Gries 2001:101). Similarly, Kaunisto (2007) refers to the corpora as "'microscopes' into language", emphasising how they "provid[e] linguists with research tools which enable more accurate and valid descriptions of language" (Kaunisto 2007:12).

Corpus-based methodology has been successfully used in many research projects, including topics relevant to the present study such as word-formation and grammaticalisation. For example, Lutzky (2004) uses corpus to examine the negative prefixes *dis–*, *in–*, *mis–* and *un–* and their productivity in the ME period. Kaunisto (2007) analyses six pairs ending in *–ic* and *–ical* and reveals differences in their

meanings and uses. Tagliamonte (2004) investigates modal auxiliaries *have to*, *gotta* and *must* that express necessity and/or obligation as examples of grammaticalisation. Hundt (2001) focuses on the relationship between frequency and the grammaticalisation of the *get* passive construction.

However, there are also some drawbacks to corpus-based methodologies. The basic problems concern the size of the corpus used, the representativeness of its component texts, and suitability of this methodology for the investigation of a particular topic (Bauer 1994:50-51, Kaunisto 2007:1). Some comments relate especially to the use of corpora in historical linguistics. Rissanen (1989) draws attention to three issues: the researcher's knowledge about the research materials, his familiarity with the corpora component texts, and the number of variables to investigate (Rissanen 1989:16-19). Cowie and Dalton-Puffer (2002) highlight the problem of differences between the sizes of the historical corpora, especially in comparison with the PDE ones and their normalizations (Cowie and Dalton-Puffer 2002:424).

I addressed those issues by selecting general corpora consisting of wide selections of genres, familiarising myself with them and their component texts normalising my results from different periods and limiting the variables of my study.

The corpora used for my analyses are described below:

Helsinki Corpus of English Texts (HCET)

It is a muti-genre diachronic corpus containing texts from the ME and EModE periods. It was created as a result of a project led by Matti Rissanen and Ossi Ihalainen at the University of Helsinki between 1984 and 1991. It consists of 1,572,800 words. For more information, consult Rissanen et al. (1993) or http://www.helsinki.fi/varieng/CoRD/corpora/HelsinkiCorpus/.

Corpus of Early English Correspondence Sampler (CEECS)

It consists of a collection of 23 personal letters (also included in the full version of the Corpus of Early English Correspondence CEEC, but no longer in copyright) written in England in 1400-1800. It was created by a team under the supervision of Terttu

Nevalainen at the University of Helsinki and completed in 1998. For more information, see http://clu.uni.no/icame/manuals/CEECS/INDEX.HTM.

Penn Parsed Corpus of Modern British English (PPCMBE)

It is an almost 1-million-word corpus of diverse British texts and text samples from the LModE period (between 1700 and 1914) that are systematically annotated, a result of joint work of the University of Pennsylvania and University of York, completed in 2010. For more information, see http://www.ling.upenn.edu/hist-corpora/PPCMBE-RELEASE-1/index.html.

Corpus of Late Modern English Texts (extended version) CLMETEV

It includes the Corpus of Late Modern English Texts (CLMET), expanded to include a total of almost 14 million words of various genres from the LModE period (exactly 1710-1920). The texts that belong to the corpus were written by British authors of both genders and varying social classes. It was compiled by Hendrik De Smet in 2006. For more information consult http://www.helsinki.fi/varieng/CoRD/corpora/CLMETEV/.

Representative Corpus of Historical English Registers (ARCHER)

It is a multi-genre corpus consisting of British and American English samples (about 1.8 million words), out of which only the former ones were used to investigate the expressions in the Late Modern English (LModE) period (1710-1900). It was first compiled in the 1990s by Douglas Biber and Edward Finegan at the University of Manchester. Its current version, ARCHER 3.1. was completed in 2006. For further information, see Biber, Finegan and Atkinson (1994) and http://www.llc.manchester.ac.uk/research/projects/archer/.

British National Corpus (BNC)

The BNC consists of both spoken (10 million words) and written (90 million words) English that form the biggest, 100-million-word general corpus used in the analysis of the Present Day English (PDE) period (from 1900 onwards). Its latest version was

released in 2007 as a result of joint effort of a large number of researchers. For more information, see Aston and Bournard (1998) or http://www.natcorp.ox.ac.uk/.

Corpus of Contemporary American English (COCA)

The COCA consists of equal parts of spoken, fiction, academic text types, magazines and newspapers, amounting to a total of more than 450 million words (20 million words for each year between 1990 and 2012). It was created by Mark Davies at Brigham Young University. For more information, see Davies (2010) or http://corpus.byu.edu/coca/.

Data obtained from the above mentioned corpora were retrieved with the use of MonoConc 2.2 which is a text-searching software providing KWIC concordance results and collocation information. It was developed by Professor Michael Barlow at the University of Auckland. For more information, see http://www.monoconc.com/.

1.5.2 Dictionaries

In addition to the corpora, dictionaries of all of the examined periods constituted important materials in this study. Using dictionaries as tools in examining word formation processes has been doubted by some scholars. It has been pointed out that they cannot provide researchers with all the possible derivatives in use (see e.g. Baayen and Renouf 1996), nor reveal the potential with which they are or were used to form new words, i.e. their productivity (Bauer 2001:144-5). However, they have also been acknowledged to provide accurate indications of the developments of word formation processes in the history of English (see e.g. Kaunisto 2007). The present study will revise the information provided by dictionaries at the beginning of each section devoted to particular pairs.

The dictionaries used for my analyses are listed below:

- *A Thesaurus of Old English* Online (2015)
- *The Electronic Middle English Dictionary* (2013)
- *A Dictionary of the English Language* Johnson (1775)

- *A Modern Dictionary of the English Language* Anonymous (1911)
- *A Glossary of Tudor and Stuart Words*, Skeat and Mayhew (1919)
- *The Concise Oxford Dictionary of Current English*, Fowler and Fowler (eds.) (1951)
- *The Advanced Learner's Dictionary of Current English*, Hornby, Gatenby and Wakefield (eds.) (1963)
- *Collins Dictionary of the English Language*, Hanks, Hll Long and Urdang (eds.) (1980)
- *Longman Dictionary of the English Language* (1984)
-*The Barnhart Dictionary of Etymology*, Barnhart (ed.) 1988
- *Collins English Dictionary* (1991)
- *Chambers Dictionary*, Schwarz (ed.) (1993)
- *Chambers 21st Century Dictionary*, Robinson and Davidson (eds.) (1999)
- *Encarta World English Dictionary*, Rooney (ed.) (1999)
- *MacMillan English Dictionary for Advanced Learners* (2002)
- *Collins COBUILD Advanced Learner's English Dictionary* (2006)
- *OED* Online (2015)

The choice of the above dictionaries was motivated by the appearance of researched words, especially with regards to more recent periods of English which offered more dictionaries in general. Originally, I had consulted all dictionaries available to me, but I decided to include in my study those that listed at least five of the researched combinations with *–free*. The dictionaries above are of various types (e.g. historical, general, learners oriented or even etymological) which was considered to be an advantage and a natural result of the development and spread of the combinations with *–free*.

1.6 Rationale

This thesis focuses on *–free* used in combination with nouns, as it has not received the same amount of attention as other privative[3] formatives. While very insightful, Górska's approach included only the analysis of the established combinations in PDE

[3] Please, see the footnote number 1 on page 20 for the definition.

and only in the context of their relation to the derivatives with *–less*. My research follows other historical studies on adjectival suffixation (such as Dalton-Puffer 1997, 2007 mentioned above) and accounts for the origins and evolution of *–free*, providing a diachronic dimension that was missing in Górska's studies. Moreover, it will discuss the appearance of the combinations in a wide selection of dictionaries and examine the corpus occurrences of counterpart pairs ending in both *–free* and *–less*, following other studies on competing suffixes (such as Kaunisto 2007 and Gries 2003) and assessing whether they tend to be synonymous or if *–free* evolved to express a rival aspect of privative meaning. What makes the present study original is that it is the first systematic investigation of a change in the combinations with *–free* which are still classified as compounds by all current grammars of English (see §1.3).

1.7 Research Questions

My research questions are as follows:

1. What are the origins of *–free*?
2. How did *–free* develop to be used in combinations with nouns?
3. What is the current status of *–free*?
4. What is the meaning relation of the counterparts ending with *–free* and *–less*?

Chapter 2. The development of *–free*

2.1 Introduction

This chapter sets out to shed light on the development of combinations with *–free* which, even though originally infrequent, have been present in the English language since the OE period. I will focus on two aspects of the evolution of the combinations—the semantics they convey in particular periods of English and the relationship of those combinations with the independent adjective *free*, especially with regards to the rapid growth of the combinations in PDE.

The semantic investigation of the *–free* combinations, presented in §2.2, will be performed by tracking changes of bases to which *–free* has been attached and examining their resulting senses, as recorded by dictionaries and expressed in their corpus occurrences.

The second part, §2.3, will focus on the structural development of *–free* and its relationship with the adjective *free*, in all of its patterns of use. It will discuss a few grammar and corpus related aspects of their use, aiming to trace the change from the adjective *free* used independently to *–free* used in combinations with nouns.

2.2 Meaning development of *–free*

2.2.1 Introduction

The present section will focus on the meaning development of combinations with *–free*, as recorded in historical dictionaries and corpora (although they only appear in the corpora of LModE and PDE periods). It will attempt to estimate how early those combinations appeared in English and, consequently, what their origins are. It will also examine the types as well as meanings of bases with which *–free* was combined.

The following sections of this chapter will discuss the combinations in *–free* found in dictionaries of all periods of English (see §2.2.3.1-§2.2.3.5) and corpus searches for the periods which showed results (see §2.2.3.4 for LModE, §2.2.3.5 for PDE). The combinations found in each period were grouped on the basis of perceived

semantic similarities, in order to observe the expansion and change of meanings associated with them. Individual combinations will only be explained in more detail in the early periods of English, especially if they are no longer in use in PDE, for the sake of clarity. The aspects of meaning taken into consideration during the analysis were as follows: the meaning of *–free* in the combinations, the meaning of nouns to which *–free* has been attached and the meaning relationship between the two. These were inspired by the factors used by Biber and Gray's (2011:235) investigation of nouns and nominal premodifiers.

2.2.2 Methodology

As mentioned in the general methodology (§1.5), my study uses corpora to investigate language use. The analysis of the PDE usage of the adjective *free* and combinations with *–free* is based on the examination of the BNC, searched via BNCweb (CQP-edition)[4], the written part. To investigate the development of combinations ending in *–free* in the history of English several corpora of historical English writing were used. To ensure a wide selection of texts and genres, three corpora were used for the LModE period: PPCMBE, CLMETEV (extended version) and ARCHER 3.1. For the EModE period I used two corpora: PPCEME and CEECS.

Additionally, I used the following dictionaries of English to examine the meanings associated with the combinations with *–free*. The Oxford English Dictionary[5] online (hereafter OED) provided a reliable account of the tendencies of language use and has been acknowledged as the main source in the examination of combinations in *–free*. A Modern Dictionary of the English Language (hereafter MDEL) (Anonymous 1911) was additionally used to investigate the formations used in the LModE period. Similarly, a Dictionary of the English Language (hereafter DEL) (Johnson 1775) and a Glossary of Tudor and Stuart Words (hereafter GTSW) (Skeat&Mayhew 1914) were consulted for the formations in the Modern English period, all available on the internet via the libraries of the University of Toronto. The electronic Middle English Dictionary online (hereafter MED) by the University of

[4] http://bncweb.lancs.ac.uk, accessed May 2012.

[5] http://www.oed.com/, accessed March 2013.

Michigan was used as a searchable database of ME. Lastly, the online Thesaurus of Old English[6] (hereafter TOE) provided by the University of Glasgow enabled searches of the earliest formations. All of the above were investigated with the goal of estimating the numbers of combinations in *–free* in the periods, with a particular interest in the types of bases to which it was attached and the meaning the combinations, as well as *–free* itself, conveyed.

2.2.3 Semantic analyses

2.2.3.1 OE

The data retrieved from the OE thesaurus and the OED suggest that the earliest examples of *–free* formations belong to a single semantic field – indicating being 'exempt from payment', especially of tributes paid to social superiors. The combinations are presented in a) below, in alphabetical order, using their lemma. Almost all of the combinations were found in the TOE, only one —*shot-free*— is quoted in the OED for this period.

a) *gafolfreo (1, 2)*[7], *glidfreo*, *scotfreo*/*shot-free (2)*, *tolfreo (1, 6)*

TOE defines *tolfreo* (adj.) as 'exempt from payment of toll' and explains its base— *toll* (n.) as 'passage money','rent'. *Gafolfreo* (adj.) is defined as 'free of tax' and formed with *gafol* (n.) which means 'payment for temporary use, rent, hire', 'exaction of tax/tribute', 'tax', 'debt'. Similarly, *gildfreo* (adj.) is described as 'free of tax', after *gield* (n.) 'a tribute expected by foreign power'. *Scotfreo* (adj.) is explained as 'free of tribute', as developed from *(ge)scot* (n.) 'a tax contribution'. The OED suggests that *scotfree* (adj.) is an alliteration of *shot-free* (adj.) which is listed as occurring earlier and defined as 'free from payment of "shot"', and provided with quotations of usage which coincidentally also include *gafolfreo/fri* (see (1) below).

[6] http://oldenglishthesaurus.arts.gla.ac.uk/menutoe.html, accessed March 2013.

[7] Numbers denote exemplary quotations of use, all of which are available in the appendix, only the examples crucial for the discussion are provided in the relevant sub-sections.

(1) Ic wille þæt þæt cotlif Leosne..ligge nu ðider inn to ðæra muneca fodan mid eallum ðæra ðingum þe þær to hyreð..**scotfreo** & **gafolfreo** on scire & on hundrede.

OED (*shot-free*, adj., sense 1)/Anglo-Saxon Writs OE

[I wish for Leosne cottage/village to render homage in food towards the monastery with all the arrangements scot and tax free within the province and the political district.][8]

2.2.3.2 ME

The meaning expressed by the combinations in *–free* starts to expand semantically in ME. The initial meaning discussed in the previous section, i.e. 'exempt from payment', is still present (see b) below). It is represented by some of the formations discussed in the previous section as well as two newly formed combinations, i.e. *lastage-free* and *lovecop-free* .

b) *gauelfre/gafolfreo*, *lastage-free (8)*, *lovecop-free (8)*, *scotfre, tolfre*, *hopperfre (3, 4)*, *room-free (5)*, *stewynfre (6)*, *wite-free (7, 8)*, *wreckfree (8)*

Lastage-free is mentioned in MED under *lastage* (n, senses b and c) and is defined as 'exempt from payment of a toll or tax paid for the privilege of loading a ship'. *Lovecop-free* is listed in both dictionaries. MED explains it as 'exempted from the tax or toll called love-cop' (*lovecopfri*, adj.), the OED as 'exempt from paying lovecop' (a compound of *lovecop*, n.), where *lovecop* means 'a tax or toll levied on merchants' (*lovecop*, n.).

The combinations that suggest expansion of meaning expressed by *–free* are also concerned with payments but their emphasis seems to have shifted from the exemption of payment itself to its possible positive outcome, i.e. gaining profit by being exempt from otherwise effective regulations.

[8] All of the translations given below quotations are mine.

Hopperfre is mentioned in the MED under *hopper(e* 'the hopper of a mill' (n., sense b)) and means 'having some privilege (priority or freedom from toll) at a mill' (see examples of use below). *Room-free* is listed in the OED as a main entry and is explained as 'not occurring or exempt from the payment levied on corn for occupying space in a mill while awaiting grinding' (*room-free*, adj.). *Stewynfre* is quoted in MED as a combination of *steven(e* meaning 'a command, an order' (n.2, sense 1) or 'a designated or an appointed time; the time of day, the hour; also, an appointment, a meeting, tryst' (n.2, sense 2). It is explained as 'an exemption of some kind in using a mill' (*steven(e* (n.2, sense 3)). *Wite-fre* is mentioned in MED under *wite* (n.2) 'a fine or customary rent' and explained as 'exempt from such fines or rents'. Last but not least, and slightly different from the other combinations, *wrekfree* is included in MED as a combination of *wrek* 'that which washes ashore from the sea, esp. from a wrecked ship; also, the right to take that which washes up on a certain stretch of ashore [...]' (n., sense a)) and defined 'exempt from the forfeiture of wrecked ships and goods which wash up on a certain stretch of shore' (n., sense b)).

(5) Concedo predictum et heredes suos **rumfre** post bladum meum.

OED (*room-free*, adj.)/Spottiswoode c1170

[I agree for his heirs to store corn roomfree.]

2.2.3.3 EModE

The meanings with which combinations ending in *–free* were associated seem to have developed further in EModE period. In this period, the formations expressing exemptions from payments (see c) below) represent only half of all combinations with *–free*. Also, they suggest a generalisation in meaning in terms of the 'payment' that is due, i.e. they are no longer only concerned with taxes or regulations but can also express a lack of need to pay for services that are usually chargeable.

c) *scotfree*/*shotfree*, *rent-free (9)*, *post-free (10)*, *postage-free (11)*

(9) Almes-houses for twenty poore widowes to dwell in **rent free**.

OED (*room-free*, adj.)/Weever 1631

The formations constituting the other half of combinations found in this period are not related to payments at all. Their meanings, as defined by the EModE dictionaries and the OED, suggested splitting them into two semantic groupings. The first one concerns *–free* formations conveying the meaning 'lacking something universally acknowledged as harmful'. Relevant types are given in d) below.

d) *gallowsfree (12)*, *stick-free (13)*, *scotfree (14)*

(14) Daniell scaped **scotchfree** by Gods pouidence.

OED (*scot-free*, adj.)/Maplet 1567

The combination that possibly initiated this expansion of meaning is *scotfree* that, according to the OED, developed another meaning, i.e. 'without being punished; without suffering injury or harm' (adj., sense 1a). In fact, the OED quotation base suggests that this meaning was recorded first, but it should be borne in mind that it appeared in OE and ME dictionaries with the meaning related to payment. *Gallowsfree* is defined as 'exempt by destiny from being hanged' by DEL (Johnson 1775). It was also listed as a compound combination of *gallows* (n.) in the OED but not provided with a definition. *Stickfree* is mentioned in the GTSW and specified as 'sword proof, invulnerable to a sword-thrust' (p. 388). It is also listed in the OED (*stick-free*, adj.) as 'proof against injury by the thrust of a weapon'.

The second grouping consists of formations dealing with 'lack of something subjectively considered undesirable' (see e) below) — wounds caused by piercing or thoughts. According to the OED, *pierce-free* stands for 'free from perforations or wounds made by piercing; not pierced' (adj.). Note, however, that piercing could also be willingly obtained and thoughts are not always detrimental so the interpretation of these combinations is subjective. *Thoughtfree* is defined as 'having or involving no thoughts; free of troublesome thoughts; showing no thought or thoughtfulness' (adj.).

e) *pierce-free (15)*, *thought-free (16)*

(16) To clear my self **thought-free** from any promise.

OED (*thoughtfree*, adj.)/Shirley 1652

2.2.3.4 LModE

In LModE, the meanings carried by the combinations in *–free* continue expanding. It is also the first period in which they are found in the available corpora as well as the dictionaries[9]. With regards to the semantic groups determined in this period, despite the fact that the combinations expressing 'exempt from payment' decrease slightly in comparison with other semantic groups (see table 2.1 at the end of this section), they are still the most frequent of all (see f) below). The majority of combinations included in f) were also present in previous periods. The two new combinations, *duty-free* and *tax-free*, seem to have been formed in a similar way to the original ones, i.e. to designate being exempt from a payment of certain taxes.

f) *duty-free (17)*, *post-free*, *rent-free*, *scot-free*/*shot-free*, *tax-free (18)*

The semantic grouping encompassing combinations expressing 'lack of something universally acknowledged as harmful' continues to develop. They are formed with bases that convey notions evaluated as negative in the majority of contexts, such as *care* or *error*. They are presented in g) below.

g) *carefree (22)*, *error-free (23, 24)*, *scot-free (25, 26)*, *spell-free (27)*

The bases used to form the next group of combinations are commonly used with neutral or even positive (in the case of *fancy*) evaluation (see h) below). Nonetheless, when attached to *–free*, they seem to express 'lack of things or concepts that can be

[9] From this period, the quotations in the appendix are provided from the corpora if possible, the OED citations are only used if the combinations appeared in the dictionary only.

considered subjectively undesirable', for *ice-free* indicates the accessibility of a port, *fancy-free* seems to denote innocent and *judgment-free* implies being objective.

h) *fancy-free (19)*, *ice-free (20)*, *judgment-free (21)*

The last semantic grouping is a new development that does not seem to involve any evaluation of the fact that something is missing. The combinations included in this group (presented in i) merely report the lack of what is neutral. *Foam-free* describes the state of the sea (which is not problematic, like *ice* was in the case of *ice-free*) and *zone-free* refers to the lack of maiden or virgin zone (or belt). As presented in the quotations below, they state facts rather than lack of undesired objects or qualities.

i) *foam-free (28)*, *zone-free (29)*

> (28) It is proverbial that they adopt to a large extent the colour of their surroundings; and seen from above at a high angle, with the black, **foam-free** sea behind, the iceberg must have been almost invisible until the Titanic was close upon it.
>
> CLMETEV/The Loss of the SS Titanic/fiction/1912

> (29) A cup to Jove, and a cup to Love, And a cup to the son of Maia; And honour with three, the band **zone-free**, The band of the bright Aglaia.
>
> CLMETEV/The Days of Pompeii/fiction/1834

To the above-mentioned groups, one needs to add an ambiguous case (see j) below). It is classified as an ambiguous combination as it does not carry the meaning 'without'. In contrast, according to the OED, it expresses a presence of particular work method: 'of a mine: admitting of being worked or drained by means of a level or levels' (adj.).

j) *level-free (30)*

2.2.3.5 PDE

There are no new semantic groups detected in PDE; however, the ones previously distinguished seem to be expanding, not only with regards to the number of types that represent them, but also the contexts in which they are used.

As regards the first meaning ('exempt from payment' in k) below), one observes that this semantic group still consists of some combinations that relate to being exempt from paying taxes (e.g. *duty free*) or fines (e.g. *penalty-free*); however, the more prominent connotation is more general and refers to exemption from payment for services that are chargeable and dismissal from which is a financial easement, usually treated as an advantage in the context of sales (e.g. *commission-free*), services (e.g. *post free*) or use of facilities (e.g. *admission free*) (the boundaries between which are fluid though).

k) *admission free (31)*[10], *commission-free (32)*, *cost-free (33)*, *customs free (34)*, *duty free*, *interest free (35)*, *penalty-free (36)*, *post free*, *rate free (37)*, *rent free*, *royalty-free (38)*, *tariff-free (39)*, *tax free*, *toll free*

The combinations included in the group describing 'lack of something universally acknowledged as harmful' have increased significantly, making it the most numerous semantic group of all and allowing to determine three semantic field related subgroups among the list presented in l) below. The first of them expresses lack of substances, objects or phenomena that are harmful to people or nature in general (e.g. *acid-free*). The second one describes lack of illnesses or illness related indispositions (e.g. *ulcer free*). The third one represents absence of negative feelings (e.g. *anxiety-free*). There also are some more general combinations that express lack of something problematic but which did not seem to belong to similar semantic fields.

l) *acid-free (40)*, *acne-free (41)*, *additive-free (42)*, *anxiety-free (43)*, *asbestos-free (44)*, *barrier-free (45)*, *blemish-free (46)*, *bureaucracy-free (47)*, *C11H17NO3 free*

[10] The PDE concordances presented in the appendix are cited from http://bncweb.lancas.ac.uk.

(48), *carefree*, *CFC-free (49)*, *chemical-free (50)*, *chlorine-free (51)*, *chromate-free (52)*, *claim-free (53)*, *collision-free (54)*, *conflict-free (55)*, *crevice free (56)*, *crime-free (57)*, *crowd free (58)*, *cruelty-free (59)*, *default-free (60)*, *defect-free (61)*, *disease free (62)*, *disturbance-free (63)*, *dope-free (64)*, *doubt-free (65)*, *drug-free (66)*, *dust-free (67)*, *effort-free (68)*, *ego-free (69)*, *emission-free (70)*, *endotoxwith free (71)*, *error free (23, 24)*, *flea-free (72)*, *frustration-free (73)*, *fuss-free (74)*, *greed-free (75)*, *guilt-free (76)*, *hassle-free (77)*, *hate-free (78)*, *hazard-free (79)*, *infection-free (80)*, *injury free (81)*, *lead free (82)*, *leak free (83)*, *limit-free (84)*, *lint-free (85)*, *litter-free (86)*, *maintenance free (87)*, *mine-free (88)*, *needle-free (89)*, *nightmare-free (90)*, *nitrate-free (91)*, *noise-free (92)*, *nuclear free (93)*, *pain free (94)*, *pesticide free (95)*, *phylloxera-free (96)*, *plaque-free (97)*, *poliomyelitis-free (98)*, *pollution-free (99)*, *problem-free (100)*, *pyrogen-free (101)*, *rabies-free (102)*, *risk free (103)*, *rust-free (104)*, *salmonella-free (105)*, *scot-free*, *shame-free(106)*, *snag-free (107)*, *solvent-free (108)*, *streak-free (109)*, *stress-free (110)*, *sulphur-free (111)*, *tangle-free (112)*, *tension-free (113)*, *traffic-free (114)*, *trap-free (115)*, *trouble free (116)*, *tumour-free (117)*, *ulcer free (118)*, *virus free (119)*, *waste free (120)*, *weapons free (121)*, *weed-free (122)*, *worry-free (123)*

> (46) Regular home care and the occasional 'luxury touch' of a professional treatment will keep most backs **blemish-free** and looking good.
>
> BNC/Best/magazine/1985-1993

The group of combinations denoting 'lack of something subjectively considered as undesirable' (see the full list in m) below) has also developed considerably and enabled distinguishing three subgroups that seem to share semantic fields. The first and largest one represents food/drinks/cosmetics from which an ingredient that is usually included has been removed to make it more appealing to particular customers (e.g. *caffeine-free*). The second one is concerned with nature or natural phenomena that seem to be undesirable in the contexts in which they are used (e.g. *cloud-free*). The third one seems to relate to improvements that have been developed through eliminating an element so far believed to be bound to be included (e.g. *seamfree*). There is also a group of combinations that did not match

any of the above semantic field related subgroups or form a new one. However, they still have the main meaning, i.e. lack of something subjectively considered as undesirable or harmful in common.

m) *alcohol free (124)*, *border-free (125)*, *bubble-free (126)*, *buzz-free (127)*, *caffeine-free (128)*, *calorie-free (129)*, *car-free (130)*, *chalk free (131)*, *checkfree (132)*, *child-free (133)*, *choke-free (134)*, *cloud-free (135)*, *cholesterol free (136)*, *dog-free (137)*, *draught-free (138)*, *election-free (139)*, *European-free (140)*, *fancy free*, *fat free (141)*, *filter-free (142)*, *flicker-free (143)*, *fragrance-free (144)*, *frost free (145)*, *gluten free (146)*, *government-free (147)*, *grease free (148)*, *halon-free (149)*, *hands-free (150)*, *hardness-free (151)*, *hum-free (152)*, *ice-free (20)*, *inclusion-free (153)*, *knot-free (154)*, *lactose free (155)*, *loam-free (156)*, *milk-free (157)*, *motor-free (158)*, *oil-free (159)*, *parenthesis-free (160)*, *peat-free (161)*, *phenylalanine-free (162)*, *question-free (163)*, *reverberation-free (164)*, *seamfree (165)*, *shadow-free (166)*, *smoke-free (167)*, *stone-free (168)*, *storm-free (169)*, *sugar-free (170)*, *surprise-free (171)*, *tool-free (172)*, *Tory-free (173)*, *tussock-free (174)*, *wait-free (175)*, *wheat free (176)*, *wog-free (177), yaw-free (178)*

> (167) It should be done on the basis of the right of non-smokers to breathe **smoke-free** air, but wherever possible taking account of the needs of those who smoke.
>
> BNC/Independent/newspaper/1985-1993

The group expressing the meaning 'without' (see n) below) also seems to comprise of combinations formed with bases that belong to certain semantic fields and are used in a few particular contexts. Almost half of the combinations denoting 'without something' are concerned with biochemistry (e.g. *nuclease free*). Some combinations describe lack of nature related phenomena (e.g. *forest-free*). A couple of them refer to language use (e.g. *syntax-free*). The remaining combinations do not seem to fall into any of the semantic categories, nor do they form another one.

n) *antibiotic free (179)*, *bacteria-free (180)*, *biopsy free (181)*, *bloc free (182)*, *Ca2+ free (183)*, *calcium free (184)*, *carbon-free (185)*, *carrier free (186)*, *cell free (187)*, *content free (188)*, *context-free (189)*, *crystal-free (190)*, *dialogue-free (191)*, *DNase-free (192)*, *forest-free (193)*, *gall stone free (194)*, *gas free (195)*, *gold-free (196)*, *macrophage-free (197)*, *metal-free (198)*, *methylation-free (199)*, *mussel-free (200)*, *nuclease free (201)*, *octreotide free (202)*, *oxygen free (203)*, *ozone layer-free (204)*, *phospho-free (205)*, *plasma free (206)*, *platelet-free (207)*, *protein-free (208)*, *RNase-free (209)*, *Round Table-free (210), serum free (211)*, *snooker-free (212)*, *snow-free (213)*, *symptom-free (214)*, *syntax-free (215)*, *taste-free (216)*, *water-free (217)*, *wind-free (218)*, *value-free (219)*, *volcanic-free (220)*, *zinc-free (221)*, *zona-free (222)*

> (202) Fasting gall bladder volume had virtually doubled from 42.1 ml in **octreotide free** conditions to 81.5 ml after two weeks of CSOI.
>
> BNC/Gut/academic/1985-1993

There is also a group of combinations that were classified as ambiguous due to their obscure meanings or manners of formation (see o) below). According to Collins Dictionary Online, *culture-free* does not carry the meaning 'without' but refers to being independent from cultural background, especially in the context of tests for intelligence[11]. *Heart-free* is the only combination included in this group that is mentioned in the OED (as a compound of *heart*, n.). It seems to be a synonym of *fancy-free* for it also means 'not in love'; however, it has not been formed by attaching *–free* to express 'without' but is a compound combination describing a characteristic of a heart, especially considering it as a symbol of one's feelings. *Shear-free* is a combination used in scientific contexts in which *shear* denotes 'tangential fraction, strain'. It has been included in this group due to its idiomatic nature. *Time-free* is another combination that does not involve the meaning 'without'. It seems to describe processes that are not restricted by time but is not listed in the OED. *While-free* has been included in the ambiguous group for its meaning is not clear from the examples found in the corpus.

[11] http://www.collinsdictionary.com/dictionary/english/culture-free-test

o) *culture-free (223)*, *heart-free (224)*, *shear-free (225)*, *time-free (226)*, *while-free (227)*

2.2.4 Conclusions

This section reviewed the development of meanings expressed by the combinations ending in *–free* in the history of English. The results of this investigation are illustrated in table 2.1 below. As revealed during the searches of historical English dictionaries, the combinations originating in OE designate exemptions from payments, especially tributes paid to superiors. The meaning of ME formations expands and begins to also express privileges, chiefly regarding the use of mills. In EModE, the combinations ending in *–free* start being formed with bases not related to payments or privileges but also ones expressing things universally acknowledged as harmful and subjectively considered as undesirable. The last semantic development, i.e. combinations denoting lack of things without any clear evaluation, appears in LModE. Also in this period, the initial payment related meaning of combinations with *–free* starts decreasing. It continues to become even more infrequent in PDE, which shows that *–free* formations are nowadays mainly used to express lack of things universally harmful, subjectively undesirable or neutral.

	OE	ME	EModE	LModE	PDE
'Exempt from payment'	100%	100%	50%	36%	7%
'Lacking something universally harmful'			25%	29%	43%
'Lacking something subjectively undesirable'			25%	21%	28%
'Without something'				14%	22%

Table 2.1: The distribution of the combinations ending in *–free* in particular semantic groups in the history of English.

2.3 Structural development of *–free*

2.3.1 Introduction

In the preceding section, I investigated the meaning development of the combinations ending in *–free*. I argued that despite they are present since OE, they only evolved to express meanings unrelated to payment or punishment in EModE.

The present section aims to provide an account of the structural development of the combinations recorded in the corpora of LMod and PDE. Section §2.3.2 discusses Pattern Grammar approach (Francis, Hunston and Manning 1996, 1998), used as a framework to examine the uses of combinations with *–free*. Section §2.3.3 provides further methodological background to theoretical frameworks used in this section. Section §2.3.4.1 is devoted to the analysis of grammatical patterns in which adjective *free* and combinations in *–free* have been used. Section §2.3.4.2 focuses on their syntactic functions. Sections §2.3.4.3 and §2.3.4.4 present further differences between uses of the adjective *free* and combinations in *–free* that could be studied using the corpora, i.e. text types in which they have been used as well as the genders and ages of the authors of searched texts. Section §2.3.4.5 summarises the results.

2.3.2 Pattern Grammar

Pattern Grammar is an approach developed by Hunston et al. as Colins COBUILD projects: *Grammar Patterns 1: Verbs* (Francis, Hunston, Manning 1996) and *Grammar Patterns 2: Nouns and Adjectives* (Francis, Hunston and Manning 1998) which are both based on the results of research on the 300 million Bank of England corpus, performed while compiling Collins COBUILD English Dictionary (1995). Apart from the two reference works, it has also been presented in Francis (1993), Hunston and Francis (1998) and Hunston and Francis (2000).

The framework has its roots in previous theories on sequences in which lexical units are used, such as Albert Sydney Hornby (1954) and John McHardy Sinclair (1991). It follows Sinclair's (1991) view on the importance of identifying the meanings represented by sequences of words used together, rather than single

items. Also, similarly to Hornby's *Guide to Patterns and Usage in English* (1954), it provides descriptions of use of particular word classes, especially valuable in EAL[12] learning and teaching.

Pattern Grammar characterises lexical items by describing their grammatical patterns, defined as 'all the words and structures which are regularly associated with the word and which contribute to its meaning' (Hunston and Francis 1996:35). The patterns focus on three major word classes and vary from simple ones such as *V that* (e.g. 'claim that'[13][14]), *N to-inf* (e.g. 'approach to learning') and *ADJ n* (e.g. 'good decision') to a lot more complex ones and including prepositions, adverbs such as *V n with adv* (e.g. 'she put down the book'), *poss N in -ing* (e.g. 'his aim in publishing his book') or *there v-link something ADJ in n/-ing* (e.g. 'there is something beautiful in that house'). These are discussed not only in terms of word classes and forms with which they are used but also different meanings that can be associated with particular patterns (for example, pattern *V n* such as 'promise something' can signify a promise, threat, vow etc.).

The framework of *Pattern Grammar* has also inspired the development of software that could recognise the patterns automatically in an open text. Trial versions of such software and its experimental uses have been discussed in Mason (2004), and Mason and Hunston (2004) who aspire to overcome technical difficulties and provide a tool enabling automatic pattern recognition, investigating language on a lot more levels than it is possible manually.

Collins reference books devoted to *Pattern Grammar* received varied reviews. The most favourable of all, published by Dave Willis and Jane Willis (2002), presents it as an innovative approach, valuable especially to corpus linguists analysing English grammar and lexis, TEFL[15] teachers and EAL learners. Another reviewer, Christopher Johnson (2000) expressed a more divided opinion. He admits

[12] EAL stands for English as an Additional Language.

[13] All examples of use in this section are quoted from BNC, unless stated differently.

[14] The pattern has been underlined within the quotation as more context has been provided in some cases.

[15] TEFL stands for Teaching English as a Foreign Language.

both of the Collins reference books to be remarkable in providing insightful lexicographic observations. However, he also points out that apart from presenting valid descriptive findings and approaches to analyse linguistic data, Hunston et al. attempts to provide some theoretical claims that seem unfounded. There is also a very critical review by Robert Borsley (2000), who accuses the authors of Pattern Grammar of ignoring views and research of linguists working within the same field but at other universities. Also, similarly to Johnson (2000) above, he brings attention to the fact that Pattern Grammar is not a theory of grammar and suggests that the concepts presented in the Collins books are not that original.

Despite the above mentioned reservations, Pattern Grammar has been successfully applied to many studies, focusing mainly on the uses of adjectives and verbs. Luzón-Marco (1999) examines the meanings carried by the pattern *v-link ADJ to-inf* (as in 'you are welcome to stay as long as you want') and discovers that it expresses a few distinct meanings, depending on the exact patterning and the associations of the adjective used. The findings also carry implications for language teaching; according to Luzón Marco (1999), grammar and lexis should be integrated and not taught separately for they convey the meaning together.

Another study of adjectival patterns was conveyed by Groom (2005). He concentrated on *it v-link ADJ that* (as in 'it is clear that UK standards are higher at the moment') and *v-link ADJ to-inf* (as in 'it is important to work at night') and observed that the two patterns differ in systematic ways, as suggested by Hunston et al. in their work. He also proposes that the differences in use between the two patterns might be related with genres in which they tend to be used.

One of the studies investigating verbs, by Mukherjee (2001), focuses on four specific patterns in which the verb *provide* is used, i.e. *V n n* (as in 'provide someone/something something'[16]), *V n with n* (as in 'provide each viewer with specially prepared spectacles'), *V n for n* (as in 'provide opportunities for you'), *V n to n* (as in 'provide homecare to the homeless'), and determines factors that

[16] Pattern *V n n* with 'provide' does not appear in the BNC but was found by Mukherjee (2001:298) in the American corpora he used.

motivate the pattern selection such as the position of the affected entity in the pattern, its animacy, gender and prepositions with which *provide* is used.

The study of Maggie Charles (2006) examines reporting clauses expressed by *V that* (as in 'argue that') patterns. She observes their uses in theses written by humanities and science postgraduate students taking into consideration types of subjects (e.g. human, non-human), verbs (e.g. argue, think) and tenses (e.g. present, past). According to her findings, this pattern is used to cite the research of others and present own reflections within the subject, a skill essential in academic writing.

Bednarek (2009) uses grammatical patterns to discuss how emotion as well as opinion are expressed in the English. She classifies opinions as JUDGEMENT or APPRECIATION and emotions as being COVERT, i.e. indirect responses or having OVERT, i.e. direct effects. Her study of nine linguistic patterns suggests distinctions in use of opinion and emotion focused lexis, leading to a better understanding of language use.

The Pattern Grammar has also been applied in many doctoral studies, the examples of which I mention briefly next. Reichardt (2013) explores how the verb *consider* is used and compares it to its near-synonyms such as *believe*, *feel* and *think*. Vincent (2014) focuses on the modality expressed in the *V wh* pattern. Su (2015) investigates the concept of judgement in adjectival patterns.

My study uses the Pattern Grammar framework for its system of patterns that enabled me to analyse my corpus data and trace the changes in uses of the adjective *free* and the combinations with *–free*. I examined all of their occurences in LModE and PDE to find out if any of the patterns of use of the adjective *free* have influenced the increase of the combinations in PDE.

2.3.3 Methodology

The present section uses corpora only for the analyses of structural development of combinations with *–free* from the adjective *free*. I use PPCMBE, CLMETEV and ARCHER 3.1 for the LModE period and BNC for the PDE period (for more information on the corpora see §1.5, Chapter 1).

The LModE corpora were searched for all uses of *free* (in all of its spellings according to the OED). The searches of PDE were conducted using 'free_AJ0' as the

formula for independent adjective *free* and '??+free_AJ0' for the combinations with *–free*. The frequency results of both periods were normalised according to the following formula: raw frequency / number of words of a corpus x 10 000 (unless stated differently, as in the case of writers' gender and age). The text in LModE corpora consist of a total of 16 849 000 words. The number of words in the written part of the BNC amounts to 86 696 417 words. The aspects investigated in more detail in this section will be introduced below.

First, grammatical patterns of both the independent adjective *free* and the combinations ending in *–free* will be investigated using *Pattern Grammar* (see previous section, §2.3.2). The model of patterns of adjectival use presented in *Patterns 2*: *Nouns and Adjectives* (1998) was of particular use for the present study, aiming to examine their changes in use (see §2.3.4.1). The patterns usually include the adjective and the words that come before and/or after it, for example prepositional phrases or clauses. The most frequent patterns in which adjective *free* is used are *free n* (e.g. *free press*), *v-link free* (e.g. *he is free*), *be v-ed free* (e.g. *I was set free*), *v free* (e.g. *Galtieri walks free*) and *free from/of n* (e.g. *free of smoke*). The combinations with *–free* tend to be used in patterns *COMB with free n* (e.g. *lead-free fuel*), *v-link COMB with free* (e.g. *the road was ice-free*) and v *COMB with free* (e.g. *we escaped scot-free*).

Second, the syntactic functions of all of the occurrences of *free*, both independent and used in combinations with nouns, will be examined and classified according to Huddleston and Pullum's (2002) adjectival syntactic functions (see §2.3.4.2). The six syntactic functions of adjectives distinguished by them are: *attributive* (i.), *predicative complements* (ii.), *postpositive* (iii.), *predeterminer* (iv.), *fused modifier head* (v.), *predicative adjunct* (vi.) that can be *detached* (a).) and *incorporated into noun phrase* (b).).

i. *a good teacher*
ii. *She is beautiful.*
iii. *someone appropriate*
iv. *too nice a person*
v. *the poor*
vi. a). *Happy he left.* b). *He grew up proud*.

The third aspect reviewed below is genres in which adjective *free* and combinations in *–free* were found to be used (see §2.3.4.3). These were provided for the PDE corpus search as the bncweb.lancaster.ac.uk interface features David Lee's Genre Classification Scheme[17]. It distinguishes 46 text types, which I simplified[18] to the main 14 types (listed in the alphabetical order): advert, biography, commerce, fiction, humanities, instructional, magazines, medicine, miscellaneous, newspaper (all types of tabloid and broadsheet ones), political (including parliamentary proceedings), religion, science (social and natural) and technology. The genres of the LModE corpora include: bible, biography, diary, drama, fiction, handbook, historical, journals, legal, letters, medicine, newspapers, philosophy, science, sermons, travelogue and treatise. The results of both periods were normalised according to the number of words of particular text types.

Fourth, gender and age of authors of corpora texts were also investigated and discussed (see §2.3.4.4). LModE corpora do not code genders of their authors so that information had to be obtained by examining each text. The PDE corpus provides that information for more than half of its written texts (51 600 467 words in total), together with their approximate age for some of them (21 913 897 words), which will also be discussed for that period.

Due to high discrepancies in the numbers of words written by particular genders, their results were normalised according to the total number of words written by male, female and mixed authors and not the total number of words in the corpus. The resulting numbers of writers' ages are only examined for PDE, thus they will not be normalised but discussed according to hits per million words written by a particular age group.

[17] http://bncweb.lancs.ac.uk/bncwebXML/genres.html

[18] It involved joining all of the sub-types as one text type for the sake of making them more comparable to LModE genres and improving my analysis. For example, 'fiction drama', 'fiction poetry' and 'fiction prose' were classified as 'fiction'. 'Letters personal' and 'letters professional' were classified as 'letters'.

2.3.4. Structural Analyses

2.3.4.1 Grammar patterns

As mentioned above (see §2.3.1), the first of the performed analyses concerns the patterns in which *free* is used, according to Pattern Grammar. I examined all uses of both adjective *free* and combinations with *–free* (using formulas specified in Methodology §2.3.2) in LModE corpora and the BNC (written part only), resulting in a total of 22469 occurrences. In order to compare the distribution of patterns, they were organised in groups of similar structures.

First, *v/link/n free* type includes patterns of *free* such as: *be v-ed free* (e.g. *be set free), v free* (e.g. *go free*), *v n free* (e.g. *leave my hands free*), *n free* (e.g. *petals free*) and *free n* (e.g. *free time*). They are grouped together as the most basic and frequent uses.

The second type comprises of expressions *free from/of*, represented with patterns such as: *free from/of n* (e.g. *free from fungus*), *be v-ed free from/of n* (e.g. *were set for the business*), v *free from/of n* (e.g. *learn free from expenses*), *v n free from/of n* (e.g. *set the crystal free of the matrix*), *v-link free from/of n* (e.g. *was free of all restraints*) and *n free from/of n* (e.g. *a day free from such cares*).

Third, the data recorded cases where free is combined with nouns and forms *COMB with free* expressions such as: *be v-ed COMB with free* (e.g. is *paid tax free*), *v COMB with free* (e.g. *stay injury-free*), *v n COMB with free* (e.g. *borrowing the money interest free*), *v-link COMB with free* (e.g. *was ice-free*), *n COMB with free* (e.g. *beaches crowd free*) and *COMB with free n* (e.g. *lead-free fuel*).

The fourth type includes *free to-inf* patterns such as: *v free to-inf* (e.g. *feel free to resubmit*), *v n free to-inf* (e.g. *makes him free to wear*), *v-link free to-inf* (e.g. *are free to do*) and *n free to-inf* (e.g. *hand free to position*).

The fifth and last *free* type comprises patterns that did not fall into any of the above mentioned groups such as: *free* (e.g. *free or not*), *det free* (e.g. *the free*), *free det n* (e.g. *too free a hand*), *free wh* (e.g. *free when*), *be v-ed for free* (e.g. *were provided for free*), *v for free* (e.g. *run for free*), *v n for free* (e.g. *get software*), *v-link for free* (e.g. *is for free*), *n for free* (e.g. *whore for free*).

The numerical distributions of each of the pattern types across the year blocks of LModE and PDE (for more details on the year blocks, see Methodology, §2.3.3) are provided below using raw and normalised frequencies (table 2.2).

ADJECTIVE FREE AND COMBINATIONS WITH –FREE						
	v/v-link/n free	free from/of	COMB with free	free to-inf	free	total
LModE	1809 1.07	584 0.35	30 0.02	142 0.08	17 0.01	2582 1.53
PDE	14076 1.62	2215 0.25	1988 0.23	1501 0.17	107 0.012	19887 2.29
total	15885	2799	2018	1643	124	22469

Table 2.2: Grammatical patterns of the adjective *free* and the combinations with *–free* in LModE and PDE.

As presented above, *free* shows overall increase of use in most of its grammatical patterns. The patterns *v*/*v-link*/*n free* are the strongest in both LModE and PDE. The only pattern showing a decrease, i.e. *free from/of* remains the second most frequent. The combinations with *–free* show the biggest increase of all, their normalised results multiply by over 10 times. In the remaining part of this section I will attempt to examine possible relationship between the decrease of the pattern *free from/of* and the increase of the combinations with *–free*.

2.3.4.2 Syntactic functions

The occurrences with the independent adjective *free* and combinations in *–free* were also analysed separately with regards to the syntactic functions they perform, in order to detect any changes in use of the former and investigate the development of the latter. I used the same search formulas (see Methodology §2.3.3). I obtained 20451 occurrences of the adjective *free* and 2018 occurrences of combinations with *–free* in total. The six syntactic functions recorded within corpus results are as follows.

The *attributive* adjectives are 'pre-head internal dependent[s] in the structure of the NP[s]' (Huddleston&Pullum 2000:528). Examples of that syntactic

function for the adjective *free* and combinations with *–free* are *free people* and *cruelty-free products* respectively.

The *predicative complements* function as 'dependents in clause structure, licensed by particular verbs, such as intransitive *be*, *seem* or transitive *find*' (Huddleston&Pullum 2000:528), for example, as in the case of *press became free* and *the store is frost-free*.

The *predicative adjunct* adjectives can be 'integrated into clause structure and hence modifiers' (e.g. *Galtieri walks free*) or 'detached and hence a supplement' (Huddleston&Pullum 2000:529) (e.g. *Free of Nina*, *Anne got her head down*.)

The *postpositive* adjectives are 'post-head internal modifier[s] in NP structure' (Huddleston&Pullum 2000:528). As an illustration, in *London of the future, free of smoke* and *a modern approach-natural and cruelty-free*, *free* and the combination with *–free* perform that function.

The *fused modifier heads* 'combine the function of internal modifier and head in NP structure' (Huddleston&Pullum 2000:529), such as in *the land of the Free* and *buy lead-free for the sake of the environment* in which adjective *free* and the combination with *–free* represent entities, i.e. the free people and the lead-free petrol.

The adjectives performing the sixth syntactic function, i.e. *predeterminer*, act 'as external modifier in NP structure, preceding the definite article *a*' (Huddleston&Pullum 2000:529) and were only found among the uses of adjective *free,* for example, in *given too free a hand*.

The syntactic functions recorded within the corpora results are provided below in tables 2.3 and 2.4 using their raw and normalised frequencies.

ADJECTIVE FREE							
	attributive	predicative complement	predicative adjunct	Postpositive	fused modifier head	predeterminer	total
LModE	980 0.58	857 0.51	558 0.33	141 0.08	12 0.007	4 0.002	2552 1.5
	979/0.574 free n 1/0.0006 free from/of n	414/0.25 v-link free 317/0.19 v-link free from/of 104/0.06 v-link free to-inf 17/0.01 free n 5/0.003 v free	355/0.21 be v-ed/v/v n/v-link free 172/0.1 free from/of n 31/0.02 free to-inf	84/0.05 free from/of n 34/0.02 n free 9/0.004 n free from/of 7/0.003 n free to-inf 7/0.003 be v-ed/v/v n free	8/0.005 det free 3/0.0014 free 1/0.0006 n free from/of	3/0.0015 free det n 1/0.0005 det free	
PDE	9977 1.15	3990 0.46	3140 0.36	685 0.08	97 0.01	10 0.001	17899 2.06
	9973/1.149 free n 4/0.001 free from/of n	1807/0.02 v-link free 965/0.1 v-link free from/of 1202/0.14 v-link free to-inf 16/0.002 v-link for free	1891/0.22 be v-ed/v/v n free 828/0.1 free from/of n 269/0.03 free to-inf 152/0.02 for free	418/0.05 n free from/of 235/0.027 n free 30/0.003 n free to-inf 2/0.0002 n for free	70/0.008 det free 27/0.003 free	10 free det n	
total	10957	4847	3698	826	109	14	20451

Table 2.3: Syntactic functions and patterns of the adjective *free* in LModE and PDE.

COMBINATION WITH –FREE						
	attributive	predicative complement	predicative adjunct	postpositive	fused modifier head	total
LModE	2 0.001	4 0.002	19 0.01	5 0.003		30 0.02
	2 COMB with free n	4 v-link COMB with free	9/0.005 v COMB with free 6/0.0035 be v-ed COMB with free 4/0.0015 v n COMB with free	5 n COMB with free		
PDE	1445 0.17	335 0.04	143 0.02	44 0.005	21 0.001	1988 0.23
	1445 COMB with free n	335 v-link COMB with free	140/0.016 be v-ed/v/v n COMB with free 3/0.004 COMB with free	44 n COMB with free	21 COMB with free	
total	1447	339	162	49	21	2018

Table 2.4: Syntactic functions and patterns of the combinations with *–free* in LModE and PDE.

The examination of syntactic functions in which adjective *free* and the combinations with *–free* appear in the corpora of LModE and PDE reveals much about the development of their uses and the relationship between the two.

As presented above in table 2.3, the uses of the adjective *free* increase by over 0.5 of its normalised score. The results of the majority of the syntactic functions are similar in both periods. Only the attributive function shows a significant increase, especially in *free n* pattern, which is the most frequent of all in LModE and PDE with 0.574 and 1.149 respectively. With regards to the largest decrease among different patterns of *free*, it can be observed in the case of *v-link free from/of* which falls from 0.19 in LModE to 0.1 in PDE.

The combinations with *–free* (table 2.4), show a significant overall increase of use, as their normalised result rises from 0.02 to 0.23. The uses of two syntactic functions, attributive and predicative complement, become the most frequent in PDE. On one hand, the increase of the attributive function seems to correspond with a similar trend in *free n* uses. However, on the other hand, the development of *v-link COMB with free* in the predicative complement function might have affected the use of *v-link free from/of* pattern of the adjective *free* which, as mentioned above, decreases in PDE.

The development of combinations from phrases are not unusual. A very similar case of the adjective *full* used in phrases with *of* (as in *a cup full of water*) has been discussed by Hopper and Traugott (1993:7) who propose a cline of grammaticalisation according to which parts of phrases may develop to be used as parts of compounds and then grammaticalise further into derivational affixes (see §3.3.4 for a more detailed discussion of the development of *–ful* as argued by Welna 2000). The possibility of *free* undergoing the process of grammaticalisation will be discussed in the next chapter, §3.4.

2.3.4.3 Text types

As mentioned in the introduction (see §2.3.1), the text types in which the adjective *free* and combinations in *–free* were also examined. Due to different corpora used for LModE and PDE, the classifications of text types are slightly varied (see this

chapter's Methodology §2.3.3 for more information) and are thus presented in separate tables.

I investigated the genres in which the independent adjective *free* and combination with *–free* were used separately. The results of my examination are presented below in tables 2.5-2.6 for *free* and 2.7-2.8 for the combinations.

ADJECTIVE FREE in LModE	
bible	13 0.7
biography	166 5.7
diary	40 2.03
drama	14 0.48
fiction	1075 0.75
handbook	22 0.63
historical	232 14
journals	32 3.62
legal	103 2.51
letters	113 1.2
medicine	39 4.8
newspapers	16 1.71
philosophy	2 0.2
science	20 0.72
sermons	27 1.4
travelogue	125 6.47
treatise	510 7.4
total	2552 1.5

Table 2.5: Text types in which the adjective *free* was used in LModE.

ADJECTIVE FREE in PDE	
advert	784 14.26
biography	721

	2.06
commerce	769 2.06
fiction	2573 1.6
humanities	1267 1.8
instructional	113 2.6
magazines	1817 2.5
medicine	601 3.15
miscellaneous	2295 1.92
newspapers	2292 1.95
political	2156 2.38
religion	241 2.16
science	1965 1.64
technology	305 2.2
total	17899 2.1

Table 2.6: Text types in which the adjective *free* was used in PDE.

As shown in the table above in tables 2.5 and 2.6, the adjective *free* is found used in a wide selection of genres in both of the investigated periods. In LModE it is especially frequent in historical (normalised frequency score 14), biographies (5.7), journals (3.62) and legal texts (2.51). In PDE it predominates in adverts (14.26) but also appears frequently in medical (3.15) and instructional (2.6), political (2.38), technology (2.2), religious (2.16) texts and magazines (2.5).

The distribution of *free* in such a variety of text types and contexts is related to a range of meanings it expresses. Further examination revealed that the LModE uses of the adjective *free* express freedom with regards to lack of domination by other people or countries. In PDE corpus it is increasingly used to describe offers on

various chargeable products and services as well as the free choices in a variety of contexts.

COMBINATION WITH –FREE in LModE	
biography	2 0.07
drama	1 0.03
fiction	10 0.007
historical	3 0.18
letters	2 0.02
newspapers	1 0.1
travelogue	2 0.1
treatise	8 0.2
total	30 0.02

Table 2.7: Text types in which the combinations with *–free* were used in LModE.

COMBINATION WITH -FREE	
advert	56 1.2
biography	26 0.07
commerce	202 0.5
fiction	154 0.1
humanities	54 0.08
instructional	50 1.15
magazines	321 0.44
medicine	61 0.32

miscellaneous	287 0.24
newspapers	286 0.24
political	161 0.18
religion	16 0.14
science	244 0.2
technology	70 0.5
total	1988 0.23

Table 2.8: Text types in which the combinations with *–free* were used in PDE.

The combinations with *–free* are found in only about a half of the genres for LModE but spread to all in PDE, significantly increasing their overall normalised frequency. The texts in which they appear most frequently are classified as adverts (1.2 normalised frequency score), instructional (1.15), commerce (0.5), magazines (0.44), medicine (0.32) and newspapers (0.24).

The uses of combinations in the above mentioned texts is closely related to the types of meaning they express and bases to which they are attached (see §2.2). The adverts and commerce texts include the combinations describing innovative food and drink products that do not consist of certain ingredients (e.g. *gluten-free*). The instructional and medical ones feature pieces of advice or reports on lifestyle and health or treatment choices (e.g. *pain-free*). Finally, their uses in magazines and newspapers concern discussions on current topics, especially those that are still considered controversial (e.g. *child-free*).

2.3.4.4 Authors' gender and age

As indicated above (see §2.3.1), the last analysis section of this chapter focuses on the gender and age of writers of texts included in the corpora used for this study. I decided to examine them hoping to notice any additional patterns or changes in the use of the adjective *free* and the combinations with *–free*.

First, the gender of the authors of corpus texts using *free* and combinations in *–free* was classified as male, female or mixed. Mixed gender means that a text was created as a collaboration of both male and female authors. The BNC corpus provides information on the writers' genders for over half of its texts. It also specifies the amount of words contributed by each gender in the whole corpus, which was used to normalise frequency results. The genders of writers included in the LModE corpora had to be manually investigated as well as the numbers of words written by each gender among their texts.

Second, the age of PDE writers using both adjective *free* and combinations in *–free* was also examined using the resources available via bncweb.lancs.ac.uk. It distinguishes six age groups: 0-14, 15-24, 25-34, 35-44, 45-59, 60+. The uses of the adjective *free* and combinations with *–free* among particular age groups will be discussed adopting frequencies per million words written by authors of particular ages. The results of my examination are presented in tables 2.9-2.10 for the writers' genders and 2.11-2.12 for their ages.

ADJECTIVE FREE				
	male	female	mixed	total
LModE	2072 1.67	447 1.39	- -	2519 1.50
PDE	5673 1.90	2318 1.60	1254 1.90	9245 1.80
total	7745	2765	1254	11764

Table 2.9: The distribution of the adjective *free* according to the writers' gender.

COMBINATION WITH -FREE				
	male	female	mixed	total
LModE	28 0.023	2 0.006	- -	30 0.018
PDE	518 0.17	210 0.14	224 0.34	952 0.18
total	546	212	224	982

Table 2.10: The distribution of the combinations with *–free* according to the writers' genders.

According the data presented above, the use of the adjective *free* is similar for both male and female authors. The normalised frequencies for the two periods differ only by 0.3 of normalised frequency score. The combinations with *–free*, however, are found to be used predominantly by men in LModE and are used almost evenly by both male and female writers only in PDE.

Some studies argue that women tend to lead language changes. Kyto (1993) examines the letters included in the EModE part of Helsinki Corpus and finds that women used the verbal *–s* with third person more than men. Arnaud (1998) proves that women were also more likely than men to use the *–ing* ending of the present progressive tense. However, Palmer (2013) investigates the development of a selection of derivative suffixes and establishes that the changes can be led by women (as in the case of *–ity*), men (as with *–ment* and *–cion*) or neither (as with *–ness* and *–age*).

The differences between changes led by men and women have been examined by Labov (2001) and Nevalainen and Raumolin-Brunberg (2003). Labov (2001:293) refers to it as 'gender paradox' in which "women conform more closely than men to sociolinguistic norms that are overtly prescribed but conform less than men when they are not". Nevalainen and Raumolin-Brunberg (2003:130-131) argue that men lead the changes "typically channelled through (…) professional usage".

Following their claim, the fact that men led the development of combinations with *–free* in LModE, might have been motivated by the fact that more than half of the combinations found in that period expressed the meaning 'exempt from payment', frequently used in the context of transactions.

ADJECTIVE FREE								
		0-14	15-24	25-34	35-44	45-59	60+	total
PDE	frequency	7	105	320	1138	1252	785	3607
	per mil	117.53	193.52	143.63	169.17	173.15	153.13	164.4

Table 2.11: The distribution of the adjective *free* according to the writers' age.

COMBINATION WITH -FREE								
		0-14	15-24	25-34	35-44	45-59	60+	total
	frequency	2	4	32	165	76	56	335

1960-1993	per mil	33.58	7.37	14.36	24.53	10.51	10.92	15.29

Table 2.12: The distribution of the combinations with *–free* according to the writers' age.

The uses of the adjective *free* according to age groups (presented in table 2.11) does not show any significant discrepancies or patterns. The groups found to use *free* the most frequently according to normalised results is 15-24 year-olds (193.52 per mil), 45-59 year-olds (173.15 per mil) and 35-44 year-olds (169.17 per mil). The group characterised with the lowest use is the youngest one, aged 0-14 (117.53).

The analysis of the distribution the combinations according to ages (presented in table 2.12 above) suggests that the age group with the highest frequency per million words is 0-14 year-olds (33.58 per mil). However, since they are represented by only 2 types, that result is not particularly reliable. A closer investigation of the next most frequent group, 35-44 year-olds (24.53 per mil), shows that it features one type of combinations especially—*risk-free*—that appears in 36% of their occurrences, in a selection of financial and commercial texts. That finding goes in line with the suggestion made above, i.e. that men lead the development of the combinations with *–free*, as all of the uses of *risk-free* were written by men.

2.3.4.5 Conclusions

The purpose of this section was to investigate the development of PDE combinations with *–free* from adjective *free* and the differences in use between the two. It used LModE and PDE corpora to study changes in their grammar patterns, syntactic functions, text types in which they have been used as well as gender and age of the authors of texts included in the corpus.

The analysis of grammar patterns and syntactic functions carried out in §2.3.4.1-§2.3.4.2 revealed that despite overall increase of the normalised frequency results of the adjective *free*, the pattern *free from/of* decreases in PDE, especially in its predicative complement function (i.e. *v-link free from/of*). Since the combinations with *–free* significantly increase (including the *v-link COMB with free* pattern), it was suggested that their development and the decrease of the *free from/of* pattern might be connected.

As shown in §2.3.4.3, some of the genres in which adjective *free* and the combinations with *–free* appear to overlap. The adjective *free* was found predominantly in historical texts in LModE and adverts in PDE, which shows how the idea of *freedom* has developed over the years—from the lack of domination by other people or countries to the freedom of choice with regards to advertised products. The combinations appear the most frequently in adverts, instructional, commerce, medicine texts as well as magazines and newspapers in PDE. They describe innovative food and drink products, treatment options or lifestyles.

Section §2.3.4.4 focused on the gender and age of authors. It was found that the adjective *free* has been used by male and female writers in both of the investigated periods and with little discrepancy between PDE age groups. The combinations with *–free* were originally used mainly by males and only started to be used evenly by both genders in PDE. The age group that uses the combinations the most frequently in PDE are 35-44 year olds. The pattern of men leading language change was reported to be typical for lexical items used in professional contexts (see Nevalainen and Raumolin-Brunberg 2003), which in the case of the original combinations with *–free* was exemptions from payment for various products and services.

2.4 Concluding remarks

The main aim of this chapter was to account for the meaning and structural development of the combinations with *–free*. I investigated those two aspects separately but they are, in fact, related.

As it was established in §2.2, the combinations with *–free* originate from OE expressions related to lack of payment. That meaning prevailed among the combinations until EModE and is still present in the English language (e.g. *duty-free* and *interest-free*). However, the bases to which *–free* has been attached started becoming more diverse, leading to spread of uses and expansion of meanings expressed by the combinations. In LModE and PDE the meanings expressed by the combinations with *–free* include ‘exempt from payment’ (e.g. *tax-free*), ‘lacking

something universally harmful' (e.g. *pain-free*), 'lacking something subjectively undesirable' (e.g. *child-free*) and 'without something' (e.g. *nuclease-free*).

My findings discussed in §2.3 suggest that, the PDE combinations with *–free* develop from phrases *free from/of*. The two patterns express similar meanings, share some of their nominal bases, and as my results show, *free from/of* significantly decreased its frequency in PDE, while the numbers of the combinations multiplied by over 10 times.

The development of the combinations was found to be led by male speakers, which has been reported to be a trend in the case of linguistic items used in professional settings (see Nevalainen and Raumolin-Brunberg 2003). Further investigation of the PDE distribution of the combinations' uses according to the speakers' ages revealed that they are most frequently used by 35-44 year-olds and closer examination of this particular age group shows that the majority of its occurrences were, in fact, produced by men in the professional, financial contexts.

The genres in which the combinations with *–free* appear are closely related to the types of meanings they express with nouns to which they are attached. The combinations related to exemptions from payments (e.g. *tax-free*) are found especially in commerce and instructional texts. Novel dietary products (e.g. *gluten-free*) as well as some of the lifestyle related combinations (e.g. *child-free*) are discussed in magazines and newspapers. The scientific innovations (e.g. *pain-free*) appear in medical texts.

The language changes involving a development of combination from a phrase are not unusual and will be discussed in more detail in the next chapter (Chapter 3. Grammaticalisation).

Chapter 3. Grammaticalisation

3.1 Introduction

In the previous chapter I accounted for two aspects of the development of the combinations with *–free* from the adjective *free*. Part one (§2.2) focused on the semantic evolution of *–free*. Part two (§2.3) examined their structural development through the analysis of its grammar patterns and syntactic functions. The present chapter is a natural continuation of Chapter 2. It uses some of my results from previous sections as well as grammaticalisation theory to continue to account for the development of *–free*.

This chapter consists of three parts. The theoretical background and traditional approaches to grammaticalisation are presented in §3.2. Section §3.2.1 discusses grammaticalisation parameters by Lehmann (1985), §3.2.2 principles of grammaticalisation by Hopper (1991) and §3.2.2 focuses on analogy and reanalysis. The second part reviews three cases of grammaticalisation from free forms to adjectival suffixes (§3.3). These are: Dutch –vriendelijk (Van Goethem 2011) in §3.3.2, OE –fæst (Bauer 2007) in §3.3.3, and –ful (Wełna 2000) in §3.3.4. The possible grammaticalisation of *free* will be examined in the third part (§3.4). Section §3.5 summarises the chapter.

3.2 Traditional approaches to grammaticalisation

It is generally recognised that all items in a language can be divided into *lexical* (also *content*) and *function* (or *grammatical*) ones. Nouns, verbs and adjectives describe things, actions and qualities and thus carry lexical meanings. Prepositions, connectives, pronouns, determiners and also affixes tend to determine grammatical relationships between the lexical words and have specific functions as far as discourse is concerned. "When a content word assumes the grammatical characteristics of a function word, the form is said to be 'grammaticalized'[19]" (Hopper and Traugott 2003:4).

[19] Original spelling.

This process has been described as *grammaticalisation*, a term believed to be used for the first time by Meillet as "the attribution of a grammatical character to a previously autonomous word"[20] (Meillet 1912:131). However, the development of grammatical items from lexical ones has been discussed before. For instance, Wilhelm von Humboldt (1825) suggested that "grammar evolved [...] through distinct stages out of the collocation of concrete ideas" (quoted in Hopper and Traugott 2003:20).

Other linguists have discussed similar processes without using the term grammaticalisation. Givón (1971) argued that the "development from the free lexemes to bound affixes, which undergo attrition and eventually fusion with the stem", is a cycle of linguistic evolution (Givón 1971:411-412). Similarly, Langacker (1977) claimed that each language could be regarded as a "gigantic expression-compacting machine [which] attacks expressions of all kinds by phonectic erosion [,] bleaches lexical items of most of their semantic content [...] and forces them into service as grammatical markers" (Langacker 1977:106-107).

The views on *grammaticalisation* can be divided into more and less restrictive, depending on their focus. The former emphasise reductions and losses associated with the process and the latter the development of new meanings and functions, as illustrated below.

The majority of restrictive explanations describe it as "emptying of lexically meaningful morphs (compound members, etc.) and their transformation into 'function' elements" (Hoenigswald 1966:44) or "'consisting of intake from lexis' and occurring when a word becomes 'sufficiently empty of lexical meaning'" (Samuels 1972:58, quoted in Campbell and Janda 2001:96). Another view suggests that it is "an evolution whereby linguistic units lose in semantic complexity, pragmatic significance, syntactic freedom, and phonetic substance, respectively" (Heine and Reh 1984:97). Some of the definitions seem to emphasize the processes of reduction that are involved in grammaticalisation even more and describe it as a "process of language change by which a free lexical morpheme becomes semantically

[20] Original: "attribution du caractère grammatical à un mot jadis autonome". Translated from French by Hopper (1991:17) in Traugott and Heine (eds.) (1991).

generalized and phonologically reduced" (Whaley 1997:285) and during which a word is "routinized, bleached, downgraded from lexical to grammatical status" (Lass 1997:256n38). A definition that seems to be covering all of the aspects of this process describes it as "the gradual and unidirectional change that turns lexical items into grammatical items and loose structures into tight structures, subjecting frequent linguistic units to more and more grammatical restrictions and reducing their autonomy" (Haspelmath 1998:78).

Views which were less restrictive seem to start with Kuryłowicz 1965, who defined grammaticalisation as "the increase of the range of a morpheme advancing from a lexical to a grammatical or from a less grammatical to a more grammatical status" (Kuryłowicz 1965:52). Some approaches emphasise the process of gramaticalisation as evolution of language. For instance, Bybee (1996) suggests it is a "progression from a lexical morpheme to a grammatical one, changes occur in the phonological shape of the morpheme, its meaning and its grammatical behaviour" (Bybee 1996:253-255). Pagulica (1994) says it is an "evolution of grammatical form and meaning from lexical and phrasal antecedents and the continued formal and semantic developments such material subsequently undergoes" (Pagulica, 1994:ix-x). Croft (2006) simply calls it a "process by which grammar is created" (Croft 2006:366). Other views focus on the generalisation of context and explain grammaticalisation as "a diachronic concept refer[ring] to a historical semantic process whereby a 'root-morpheme' with a full *lexical* meaning assumes a more abstract *functorial* or 'grammatical' meaning" (Matisoff 1991:384) and the process in which "lexical items and constructions come in certain linguistic contexts to serve grammatical functions or […] develop new grammatical functions" (Hopper and Traugott 2003:1).

However slightly distinctive, the two approaches have been presented as complementary by Kiparsky (2012) and Traugott and Trousdale (2010). According to them, the difference depends on the change in focus, with the first one focusing on increased dependency and relating to the development of morphosyntactic forms, without changes in function and the second one focusing on extension and examining a change in functions (Traugott and Trousdale 2010:3).

The following sections will review two sets of features characterising the process of grammaticalisation—Lehmann's parameters (§3.2.1) and Hopper's principles (§3.2.2) as well as discuss analogy and reanalysis (§3.2.3)—processes closely related to grammaticalisation.

3.2.1 Lehmann's parameters of grammaticalisation

Lehmann's (1985) parameters are directly related to changes in autonomy of a linguistic sign that can be investigated according to three principlal aspects, i.e. *weight*, *cohesion* and *variability*, all studied from *paradigmatic* and *syntagmatic* perspectives. As a result, Lehmann proposes six parameters associated with changes involved in the process of grammaticalisation and determining the degree to which a linguistic sign is grammaticalised. The parameters are presented below in table 3.1, reproduced according to Lehmann (1985).

	paradigmatic	syntagmatic
weight	integrity	scope
cohesion	paradigmaticity	bondedness
variablity	paradigmatic variability	syntagmatic variability

Figure 3.1: Grammaticalisation parameters by Lehmann (reproduced from Lehmann 1985:306).

Weight distinguishes it from other items in its class and is associated with the sign's significance in a sentence. It includes *integrity*, i.e. its semantic and phonological size, as well as *scope*, i.e. the degree to which it participates in forming new constructions.

Cohesion refers to the ability of a sign to contract relations with other signs through *paradigmaticity* and *bondedness*. *Paradigmaticity* relates to the extent to which it assimilates into a paradigm; *bondedness* to the extent to which it relies upon other signs or attaches to them.

Variability relates to the mobility of a linguistic sign. It has a *paradigmatic* aspect that concerns the probability of other signs being used instead and a

syntagmatic aspect that involves the probability of the sign being moved around (Lehmann 1985:306).

Grammaticalisation of a linguistic sign is manifested by a decrease of *weight* and *variability* parameters but increase of *cohesion* ones. Even though the parameters were presented in a synchronic context, they arise as results of diachronic processes, shown in a table 3.2 below, also replicated from Lehmann (1985).

parameter	weak grammaticalisation	——process—>	strong grammaticalisation
1. integrity	bundle of semantic features; possibly polysyllabic	——*attrition*—>	few semantic features; oligo- or monosegmental
2. paradigmaticity	item participates loosely in semantic field	——*paradigmaticisation*—>	small, tightly integrated paradigm
3. paradigmatic variability	free choice of items according to communicative intentions	——*obligatorification*—>	choice systematically constrained, use largely obligatory
4. scope	item relates to constituent of arbitrary complexity	——*condensation*—>	item modifies word or stem
5. bondedness	item is independently juxtaposed	——*coalescence*—>	item is affix or even phonological feature of carrier
6. syntagmatic variability	item can be shifted around freely	——*fixation*—>	Item occupies fixed slot

Figure 3.2: Parameters and processes of grammaticalisation by Lehmann (adapted from Lehmann 1985:309).

Attrition demonstrates itself through phonological loss (or *erosion* by Heine and Reh 1984:24) and *semantic loss*/*bleaching* also called *desemanticisation* (see Nørgård-Sørensen et al. 2011:19). These two processes happen gradually and are very much related. One of the well-known examples of phonological loss is a reduction of *be going to*, a three morpheme construction, to *gonna* that consists of only one morpheme (Hopper and Traugott 2003:1). The same construction can be used to illustrate *semantic loss—to go* was reused grammatically as a future marker for other linguistic elements (Heine and Kuteva 2002:161).

Paradigmaticisation is an increase in paradigmatic cohesion leading to morphologically more integrated and homogenous paradigms. For example, in the process of grammaticalisation of *full* (e.g. *full of beauty*) to *–ful* (e.g. *beautiful*), it shifted from an open class of adjectives to the class of suffixes that is a lot more restricted.

Obligatorification refers to limiting the choice among the numbers of a paradigm according to grammatical rules. Norde focuses on Swedish *mot* that grammaticalised from a noun (meaning *meeting*) to a preposition (meaning *against*) which became obligatory and irreplaceable in prepositional constructions (Norde 2012:82).

Condensation or *shrinking scope* means lowering complexity levels of constituents with which a sign is combined. As an illustration, *have* and *be* were originally complemented by a nominalised VP, but as they developed into auxiliaries, they began to function at the VP level (Lehmann 2002:128, quoted in Narrog 2012:100).

Coalescence involves increase in bondedness with another element through cliticisation, affixation and/or fusion. It takes place when a free morpheme becomes bound as in the case of OE adjective *læs* that developed into an affix attached to nouns (e.g. *careless*).

Fixation means that the item loses its ability to be used in different slots and begins to be only used in a fixed syntactic and morphological position. For instance, Latin prepositions *dē* and *ad* could be applied in different slots within the NP, but when borrowed into French as *de* and *à*, they became fixed to occupy the position before the noun (Lehmann 1985:307).

The parameters and processes described above are typical of grammaticalisation and have been widely used to determine whether a linguistic sign has undergone that language change. However, it should be borne in mind that they may appear at different times of the development of a particular formation. They can also be found individually outside that process.

3.2.2 Hopper's principles of grammaticalisation.

Hopper (1991) generally agrees with the parameters suggested by Lehmann (1985) (*paradigmaticisation*, *obligatorification*, *condensation*, *coalescence* and *fixation*) (see §3.2.1). He calls them 'useful, indeed indispensable' and admits that they 'have repeatedly proven their value in the study of grammaticalisation' (Hopper 1991:21). Hopper's principles are supposed to supplement Lehmann's parameters by being more applicable to earlier stages of grammaticalisation, before the changes in use of linguistic items are obligatory and fixed. The principles are introduced in table 3.3, below and will be discussed in more detail next.

principle	definition
1. layering	coexistence of different forms conveying analogous meanings
2. divergence	branching out of a lexical and grammatical meaning of the same origin
3. specialisation	narrowing linguistic choices of a grammaticalising element
4. persistence	remnant of original lexical meaning in a new grammatical meaning
5. decategorisation	changing word class and meaning

Figure 3.3: Principles of grammaticalisation by Hopper (reproduced from Hopper 1991:22).

Layering refers to the existence of more than one way to express similar or identical meanings within a functional domain of a language. It occurs as a result of a new

form grammaticalising to serve a meaning that is already expressed by a different construction which does not immediately disappear. The new form may eventually replace the old one, or the two of them co-exist and interact, sometimes specialising for particular constructions, registers etc. *Layering* can be exemplified by the variation in expressing certain tenses in English. To convey the future the speakers can use one of the three constructions: *will* (1), *shall* (2) and *be going to* (3) (Bybee et al. 1994:21), as presented below. In simple past tense, the verb forms may result from vowel alternations as in *drive*/*drove* (4) or an apical suffix [*t*] or [*d*] like in *notice*/*noticed* (5) (Hopper and Traugott 1993:124).

(1) *I will see him later*.
(2) *I shall see him later*.
(3) *I am going to see him later*.
(4) *I drove her to the airport.*
(5) *I noticed her in the airport crowd.*

Divergence is also concerned with the idea that diachronic language change may result in synchronic variation. Hopper even comments that divergence can be understood as a special case of layering (Hopper 1991:24). It is a case when a lexical item grammaticalises but its lexical form remains actively used and continues to undergo further changes. Divergence results in forms sharing etymology but being functionally different. As an illustration, OE lexeme *ān* (meaning 'one') grammaticalised into *a*(*n*) (pronounced as /ən/), but also continued to exist and develop into *one* (pronounced as /wʌn/) (Łęcki 2010:13).

Specialisation involves limiting linguistic choices of a construction undergoing grammaticalisation (or another language change). It is equivalent to Lehmann's *obligatorification* (see §2.3) but focuses more on the process of change than its final stage. A frequently quoted example of *specialisation* is the one of French negation, which in earlier stages was expressed by placing a particle *ne* before the verb, sometimes with a noun used adverbially to imply a lesser quality (Gamillschleg 1957:753, quoted in Hopper and Traugott 2003:117).). The most prominent of these nouns included *pas* ('step, pace'), *point* ('dot, point'), *mie* ('crumb'), *gote* ('drop'), *amende* ('almond'), *areste* ('fish-bone'), *beloce* ('sloe') and *eschalope* ('pea-pod'). Over time, their number decreased and by the 16th century only *pas* ('step, pace'),

point (‘dot, point’), *mie* (‘crumb’) and *goutte* (‘drop’) were used to perform that function. In the modern period *pas* and *point* remained the only ones still used in that sense. However, it is *pas* that has developed into an “unmarked” complement of *ne* (6). In fact, it started to be used for more constructions, also as the only negative particle, especially in the spoken language (7).

(6) *Il ne boit pas de vin.* (‘He doesn’t drink wine.’)
(7) *Je sais pas*. (‘I don’t know.’)

Persistence focuses on the correlation of the meaning and function of a grammaticalised item with its original lexical properties. A good illustration of that principle is the case of *will* that developed into an auxiliary marking future (8). However, the original OE *willan* conveyed volition and intention which are still present in some of the uses of *will* (9) (Łęcki 2010:16).

(8) *The movie will not be showing anymore next week.*
(9) *Will you marry me?*

Decategorisation relates to a functional and semantic change of a grammatical element. It involves a loss of functional categoriality and, consequently, discourse autonomy. The members of two major categories, i.e. nouns and verbs, transform from identifying discourse participants and reporting events into prepositions, adverbials, auxiliaries, etc. that have fewer morphological options (Łęcki 2010:17). For example, verb (10) a) *to consider* loses its verbal properties and becomes a preposition (10) b) used as a conjunction.

(10) a) *I have never <u>considered</u> it*.
b) *<u>Considering</u> his age, he is in a pretty good form*.

The five principles describe phenomena associated with the development of a grammatical element from a lexical one. They focus on different aspects of

grammaticalisation to the ones discussed in the previous section (§3.2.1), but were also useful in determining changes in *–free* (§3.4.3).

3.2.3 Reanalysis and analogy

The previous sections outlined parameters (§3.2.1) and principles (§3.2.1) associated with grammaticalisation, but there are also two language change mechanisms that may trigger grammaticalisation that will be discussed next.

Reanalysis (also referred to as *neoanalysis* following Andersen 2001) is defined as "change in the structure of an expression or class of expressions that does not involve any immediate or intrinsic modification of its surface manifestation" (Langacker 1977: 58). It "is given a new interpretation in terms of altered dependency relations", but without any formal change (Diedrichsen 2012:1170). A frequently quoted example is the one of [hamburg]+[er] which originally denoted a meat product from Hamburg city in Germany, but was reanalysed as an English word 'ham' and re-bracketed as [ham]+[burger] (example from Hopper and Traugott 2003:50). The form receives a new meaning or changes category in an ambiguous context but the process is covert (Delbecque and Verveckken 2014:664) and only becomes noticeable when the reanalysed structure is used to form other varieties, such as 'cheese burger' in the example given above.

Analogy, refers to "structural or semantic similarity the speaker perceives between a particular (source-) construction and a (target-) construction which invites him to parse the former as an instance of the latter" (Delbecque and Verveckken 2014:663). In other words, it involves "attraction of extant forms to already existing ones" (Hopper and Traugott 2003:63-64). Analogy does not create new grammatical structures, but can "make the unobservable changes of reanalysis observable" (Hopper and Traugott 2003:68); it is, thus, overt. As an illustration, *brung* might be used instead of *brought* as an analogy to the irregular past participle forms of *ring* and *sting*, i.e. *rung* and *stung* (example from Fischer 2011:34).

There has been a long running debate on which of the two should be considered dominant as well as on their role in language change in general and in grammaticalisation specifically. Hopper and Traugott (2003) consider the two as important mechanisms in the process of grammaticalisation (Hopper and Traugott

2003:69) but suggest that "there is no change without reanalysis" (Hopper and Traugott 2010:39). It has even be proposed that grammaticalisation is, in fact, reanalysis (Roberts 1993:219) which was rejected by, among others, Haspelmath (1998:343-343).

Fischer (2010), on the other hand, argues that it is analogy that "play[s] a primary role in grammaticalization" and "should be seen as the main mechanism" motivating and operating language change (Fischer 2010:181-182). However, Lehmann (2004:161) points out and discusses cases that are "pure grammaticalization without analogy", proving that the process of change from lexical to grammatical can also successfully take place on its own. In fact, he insists that "the proprium of grammaticalization comes out only in pure grammaticalization" (Lehmann 2004:162).

Despite the lack of consensus on the degree to which reanalysis and analogy are involved in grammaticalisation, they are both undeniably significant mechanisms that may trigger the change from a lexical to a grammatical element. They will also be helpful in my discussion of changes taking place in combinations with *–free* in §3.4.5.

3.2.4 Conclusions

As presented in section §3.2.1 Lehmann's (1985) parameters focus on the grammaticalising element and changes it undergoes. These can either apply to the element itself (especially as in *attrition* and *coalescence*) or its use with other items (as in *paradigmaticisation*, *obligatorification*, *condensation*, *fixation*). Section §3.2.2 showed that Hopper's (1991) principles also include repercussions of the grammaticalising item on the language system (especially in *layering* and *divergence*) as well as emphasise the correlation of lexical and grammatical meanings of the changing element (*divergence*, *persistence*, *decategorisation*). Section §3.2.3 discussed *reanalysis* and *analogy*, two mechanisms considered useful in analysing grammaticalisation process. Since all of those seem relevant to my investigation of combinations with *–free*, all of them will be used in the analysis section of this study.

3.3 Examples of previous studies in the development of suffixes

3.3.1 Introduction.

As indicated in section §3.1, the present section will review three case studies of grammaticalisation from adjectives into suffixes. They are believed to be relevant to my study, as they are examples of similar research, confirming the validity of the present topic as well as methodology chosen to investigate it.

3.3.2 A case of –*vriendelijk* (C. Van Goethem 2011)

Van Goethem (2011) investigates grammaticalisation from adjectives to prefixes and suffixes which she calls *affixisation*. She uses a number of examples from Dutch and French and examines which of these two languages allows affixisation more. According to her, affixes develop from compounds and it is possible to determine a cline of affixisation which consists of three stages.

In the first stage, compound use becomes regular but it remains an adjective and still carries its lexical meaning. In the second stage, the pattern becomes more productive, forms new compounds and develops a more specific meaning. In the last, third stage, it may continue to grammaticalise into an affix (Van Goethem 2011:196). Van Goethem investigates that final change using grammaticalisation parameters that she proposes on the basis of previous research and parameters by Lehmann (1985), Brinton and Traugott (2005) and Marchello-Nizia (2006). Her affixisation parameters involve *decategorisation*, *desemanticisation*, increase in *productivity*, *paradigmaticisation* and possible *stress weakening*.

The present section will focus on Van Goethem's analysis of the above mentioned parameters in the case of the Dutch adjective *vriendelijk* and its formations with nouns, as in *kindvriendelijk* ('child-friendly') and *vrouwvriendelijk* ('woman-friendly'). Her parameters will also be taken into consideration during the analysis of –*free* in later sections (especially §3.4.3 and §3.4.5).

Resemanticisation involves a specialisation of meaning when an adjective starts being used as a bound element in constructions with nouns. Van Goethem cites definitions from VDN dictionary that suggest such a change in the case of –

vriendelijk. According to her, its meaning is 'iemand ter wille zijnd, dienstvaardig, voorkomend' ('coming to someone's assistance, helpful, obliging') (Van Goethem 2011:206) as illustrated by (11) below, also quoted by Van Goethem.

(11) Zou u zo vriendelijk willen zijn mij een inlichting te verstekken?[21]
would you so friendly will be me an information to supply
Would you be so kind as to supply me some information?

The specialised bound meaning is 'bevorderlijk voor de toestand, emancipate, ontwikkeling, welvaart e.d., rekening houdend met de wensen van de of het in het eerst genoemde' ('beneficial to the condition, the emancipation, the development, the prosperity etc., taking into account the wishes of what is named in the first part of the compound') (Van Goethem 2011:207) as in (12), replicated from Van Goethem (2011:207).

(12) Zonnepanelen zijn milieuvriendelijk.
Solar panels are environment-friendly.

The meanings of both uses are, of course, strongly related but a slight specialisation of the bound form is still noticeable.

Decategorisation is a difficult parameter to determine for *–vriendelijk*. Van Goethem discusses it following two criteria: inflection and coordination possibilities. With regards to the first, *–vriendelijk* remains inflected, but so do all regular suffixed adjectives in Dutch. The second criterion, coordination possibilities, concerns the use of *–vriendelijk* with its nominal bases. According to Van Goethem, it allows both backward (13) and forward (14) gapping, the former of which is typical for suffixes while the latter is not.

(13) Aan het einde wordt de nieuwe vorm van bevallen beschreven: hoe het ook vrouw- en kindvriendelijk kan tijdens een natuurlijke geborte.

[21] Quotations used in this section are replicated from Van Goethem (2011).

At the end the new way of giving birth is described: how it can also be woman- and child-friendly during a natural birth.

(quoted from Van Goethem (2011:208)).

(14) Voor vijfduizend dollar vaste kosten (...) kunnen bedrijven inzicht krijgen in de vraag hoe vrouwvriendelijk of -onvriendelijk hun werknemers zijn.
For five thousand dollars of fixed costs (...) companies can gain insight into the question how woman-friendly or –unfriendly their employers are.

(quoted from Van Goethem (2011:209)).

Productivity of *–vriendelijk* seems to suggest it is becoming a suffix. Van Goethem quotes its examples of use found on the Internet with nouns (e.g. *een gehandicaptenvriendelijke vacature* 'a disabled-friendly vacancy' and *een borstvoedingsvriendelijke werkomgeving* 'a breast feeding-friendly working environment') and also verbs (e.g. *een fiets- en loopvriendelijke stad* 'a cycle- and run-friendly city' and *een bouwvriendelijk beleid* 'a construct-friendly policy') and argues that this expansion of host-classes supports her hypothesis of grammaticalisation of *-vriendelijk*.

With regards to *paradigmaticisation*, Van Goethem discusses it in the context of *–vriendelijk*'s competition with prefix *pro-* as the two share meaning ('beneficial') and some of the bases (e.g. *pro-woman* and *women-friendly*).

Stress weakening has not taken place in the case of *–vriendelijk* yet. It remains stressed even though the main stress is on the first element, which is unusual for Dutch compounds.

Summarising, *–vriendelijk* displays some of the typical suffixal properties, such as *productivity*, *paradigmaticisation* and signs of *desemanticisation*. It still does not fully fall into the category of suffixes though and is argued to be regarded as a semi-suffix.

3.3.3 A case of *–fæst* (A. H. Bauer 2007)

Bauer (2007) accounts for the grammaticalisation of OE adjective *–fæst*. She uses a language corpus to track the development of a suffix from a second element in compounds. She describes grammaticalisation as a chain of gradual processes that

may overlap. The processes she focuses on include *semantic change*, *decategorisation*, *reanalysis* and *reduction*.

The first process mentioned by Bauer (2007), i.e. *semantic change*, corresponds with Van Goethem's (2011) *resemanticisation* (see §3.3.2), since both of them refer to the change in meaning as one of the parameters of grammaticalisation. The two approaches seem to differ though, the former one emphasises the meaning becoming less specific or complex, while the latter one suggests it becomes more specialised in particular contexts. The two are regarded as differing in focus, not principle though.

Decategorisation is discussed by Bauer (2007) in the same context as by Hopper (1991) and Van Goethem (2011). It involves loss of structural properties and change from open to closed word classes.

Reanalysis is described by Bauer (2007) as the only process involved in grammaticalisation that is not gradual but rather sudden. According to her, it happens as a result of meaning ambiguity in a specific context and triggers semantic change. She illustrates it with an example of *be going to* that originally only expressed physical relocation but due to uses also involving a future reference, such as (15), it became reanalysed as a future marker and may be used even without the sense of physical motion , as in (16).

(15) *I'm going to speak with Helen*. (i.e. I am on the way to do it.)[22]

(16) *I'm going to scream if you don't give it back*. (i.e. I will scream.)

Reduction involves shortening of constructions that undergo grammaticalisation, especially when they start to be used with high frequency. It was also mentioned by Lehmann (1985) (see §3.2.1) and by Van Goethem (2011) who focuses on the phonetic side of it and calls it *stress weakening* (see §3.3.2).

Bauer (2007) uses the processes explained above as well as Traugott's (2003:643-644) schema for early stages of discourse markers' grammaticalisation

[22] These examples of use are mine.

and Heine's model of auxiliary development (1993:58-66) to propose a more general schema of grammaticalisation, replicated below (Bauer 2007:32):

- Change in meaning in a certain type of compound
- Reanalysis of the compound with its first member[23] as semantic focus
- Decategorisation of second member[24] of compound from free to bound morpheme
- Change in meaning of suffix with generalisation of use
- Further loss of properties

Bauer (2007) starts investigating the development of the adjective *fæst* into a suffix by classifying the results of her corpus search according to functions *–fæst* performed. The three main uses of *–fæst* include an independent adjective, SM of a compound which is a morphological head as well as semantic focus and adjectival focus.

First, *fæst* and a few occurrences of its negated form *un-fæst* represent its adjectival use that carry a variety of both concrete and metaphorical meanings and account for about a third of all occurrences.

Second, the compounds with *–fæst* were found to be formed mainly with nouns, with only a couple of adverb-adjective combinations. The compounds with nouns were further subdivided into following categories depending on the relationship between the FM and SM: comparison, cause, locality and relation. The compound uses constitute a tenth of uses of *–fæst*.

Third, the combinations in which *–fæst* is used as a suffix consist mainly of noun bases, the combinations with which carry a possessive meaning in all but one cases. There are also a few types combined with adjectives, the formation of which seems superfluous.

Overall, the derivatives with *–fæst* as a suffix constitute more than half of both types and tokens of all results. There were also a few items that did not match either

[23] Hereafter: FM.

[24] Hereafter: SM.

of the categories but these cases will not be discussed here (see Bauer 2007:42-44, for more detail).

According to Bauer (2007) the grammaticalisation from an adjective to a suffix went through the following stages, replicated from Bauer (2007:45):

- Independent adjective, either simple or complex
- SM both semantic and morphological head of a compounded adjective
- Unclear status, either compound SM or adjectival suffix
- Adjectival suffix

However, the development of a bound morpheme was not the end result of the evolution of *–fæst*. Once the SM of a compound was reinterpreted as a suffix, it continued to develop two functions. The first and most frequent use concerns attaching *–fæst* to nouns and creating a possessive meaning 'having/equipped with X'. After some time, the suffix started to be used with a wider range of abstract nouns. It weakened the possessive feature and developed an affiliative one. The second use refers to the derivatives with adjectival bases. In these cases, *–fæst* adds no morphological meaning but intensifies the meaning of a base. This use was represented by only a few items though, so the intensifying feature was lost and *fæst* was found productive in all of the remaining uses. It was lost due to a rival derivational process expressing similar meaning, namely, the one of *ful* (discussed in the next section).

3.3.4 A case of *–ful* (J. Wełna 2000)

Wełna (2000) analyses the development of the suffix *–ful* from OE adjective *full* meaning 'full, complete, containing abundance of'[25]. He quotes the pathway of its development briefly mentioned in an example of a lexicality cline:

*a basket **full** (of eggs…) > a cup**ful** (of water) > hope**ful***

(Hopper and Traugott 1993:7)

However, as Wełna (2000) points out, all of the forms it quotes are present in PDE so it does not account for its development as much as its variation. Also, according

[25] As explained by Welna (2000:44).

to him, it disregards an important stage in *–ful*'s development, i.e. its use as an intensifier of a noun it precedes (as in *ful gode* 'very good'). Wełna (2000:45) proposes a more diachronic cline of increasing grammaticalisation of (-)*full* as reproduced below:

(a) (*muþ*) ***full*** *wætres* > (b[1]) ***ful***(***l***) *gode* 'very good' ‖
(b[2]) *mouth****full*** > (≈ full mouth) > (c) *mouth****ful*** >
(d) *use****ful*** [fʊl] (≠ full of use) > (e) *use****ful*** [fəl]

The outline above suggests two strands in the grammaticalisation of (-)*ful*. In the first, that takes place in OE, *full* acquires an intensifying function which is soon lost and does not lead to any more developments. In the second strand, that also began in OE but continued till modern times, *full* gradually transforms into a suffix, as a result of syntactic, morphological and phonological changes. Wełna (2000) proves his hypothesis using examples from medieval literature. The meaning originally carried by *full* is presented in (17)[26], where the phrase *cælic* ***fulne*** ('full cup'), *full* means 'complete', a sense that still exists in English. *Full* has also developed an abstract, more metaphorical sense 'trusty, thorough', illustrated in (18).

(17) c1000 *Sele þonne cælic* ***fulne*** *to drincanne* (*Sax. Leechd.* II. 268)
(18) 972 ... *bæt he beo... min fulla freo[n]d & forespreca*. (*Will of Ælflæd* in Birch *Cartul*. *Sax*. III. 603)

The use of *full* carrying an intensifying feature appeared in early English and continued to be used until Late Middle English (and even till the 19th century in literary style) when it lost a competition with the rival adverb *very* that had developed from the French adjective *verai*. As exemplified in (19), they expressed a very similar semantic content as the phrase *ful baldice* means 'very boldly'.

(19) *He* ***ful baldice*** *beornas lærde.* (Byrhtnoth, 311 (Gr.))

[26] All quotations are from Welna (2000).

The suffixal use of *–ful*(*l*) was found even earlier than the intensifying one but originally almost only combined with concrete nouns such as *mouthful*, *cupful*, *spoonful*, *handful* etc. With regards to its spelling, Wełna (2000) justifies his hypothesis of loss of the geminated <ll> with the example of *mouthful* that was found spelt with <ll> (20) between the 15th and 17th centuries and began to appear with a single <l> (21) from the 16th century. However, he admits that *spoonful* presents some irregularities to his theory as it was found ending in <l> (22) already in the 13th century and with <ll> (23) in the 14th.

(20) c1400 *A* ***mouth-full*** *of hoot water*... (tr. *Secreta Secret*., *Gov*. *Lordsh*. 77)

(21) c1530 *He asked for a* ***mouthful*** *of quick brimstone*. (*Hickscorner* in Hazl. *Dodsley* I. 179)

(22) c1290 *He nadde nou ð̄t a* ***spone-ful*** *ale*. (*S. Eng. Leg.* I. 193)

(23) c1380 *Pouder of seede of lanett a* ***sponfull***, *and of love-ache a* ***sponfull***. (in *Rel*. *Ant*. I. 52)

In the case of either of the two spellings, the pronunciation of *–ful*(*l*) in the above mentioned derivatives remained identical to the adjectival one, i.e. [fʊ̯l] due to a strong presence of its original meaning in these formations. However, over time it grammaticalised even more, resulting in formations with abstract nouns such as *beautiful*, *careful*, *aweful*. The geminated <ll> is permanently lost and the vowel starts being reduced to [fəl] or [fä̲].

3.3.5 Conclusions

The selection of three case studies discussed in the above sections was motivated by two reasons. First, they are believed to be particularly representative of available research on the grammaticalisation of independent adjectives into suffixes. Second, each of them is considered valuable to my study of *–free*. Wełna (2000) analysed a cline of grammaticalisation of an adjective carrying a meaning opposite to the one

developed by *–free*. Bauer (2007) proposed a schema of grammaticalisation that was found very useful in assessing the stages of changes in the use of *–free*. Additionally, similarly to hers, my study is also corpus-based. Van Goethem (2011) investigates a recent case of grammaticalisation and follows grammaticalisation parameters as I plan to.

3.4 The development of *–free*

3.4.1 Introduction.

This following section will use the analyses presented in more details in Chapter 2 (§2.2 for meaning and §2.3 for its patterns of use) as well as views on grammaticalisation discussed in the previous sections of this chapter to assess whether *–free* could also be becoming a suffix.

3.4.2 Review of findings on *–free*

The present section will review my main findings on the development of combinations with *–free* as attested in historical corpora and dictionaries and investigated in the previous chapter (§2.2 for the meaning development and §2.3 for the structural development).

The combinations with *–free* have been present in the English language since OE. Originally, referring to exemptions from payments such as *gafolfreo* (24) and *gildfreo*.

> (24) [Ic kyþe eow þæt ic wille] ðet þæt plott landes æt Clæigate, l[i]gge nu heonon forð inn to Sancte Petre æt Westmynstre, mid ælc ðere þing[a þæt þarto birð],..**scotfri** & **gafollfri** of [scire & hundrede, of gelde] & of dænegelde & of ealles cynnes ðingæ.
>
> OED (*shot-free*, adj., sense 1)/Anglo-Saxon Writs OE

[[I declare my wish] for the territory of Claeigate to render homage in live stock to the village of Saint Petre at Westminister, **scot** and **tax free** [of province and political district payment].][27]

In ME, the compounds with *–free* expand their use to denote exemption from regulations, like in *hopperfre* (25) and *stewynfre*. This sense might have helped in the development of the compound's next meaning groups, as it was the first extension of the original meaning.

(25) [Hugh le Norreis..grants..the fourth part of his land..and] hoperfre [and] tolfre [in his mills of Hage].

MED (*hopper(e*, n., sense b))/ Deed Norris in LCRS 93 1227

In EModE, *–free* starts being attached to noun bases with even more varied meanings. *Scotfree* expands to convey 'avoiding punishment or harm' and leading to more combinations that express 'lacking something universally acknowledged as harmful', for example *gallowsfree*[28] (26). Additionally, another meaning group seems to be forming in that period, i.e. 'lacking something subjectively considered undesirable', represented by *pierce-free* and *thought free* (27).

(26) Let him be Gallows-Free by my consent.

OED (combination of *gallows*, n.)/Tate and Dryden 1682

(27) To clear my self **thought-free** from any promise.

OED (*thoughtfree*, adj.)/Shirley 1652

All of the senses found in EModE, as well as the original 'exempt from payment' meaning, survive to LMod and PDE. There is also one more meaning group recorded

[27] All of the translations given below quotations are mine.

[28] Where 'gallows' means 'an apparatus for inflicting the punishment of death by hanging[…]' OED (*gallows*, n., sense 1).

in the two most recent periods, i.e. 'without something neutral', like in *cell-free* (28), *dialogue-free* and *snooker-free*.

(28) Antibiotically active cell-free watery extracts could be prepared on Dorset's egg medium.

OED (combination of *cell*, n.)/Nature 24/2 1946

The investigation of grammatical patterns and semantic functions of the adjective *free* and combinations with *–free* in LModE and PDE discussed in Chapter 2 above shows that this expansion of expressed meanings has been accompanied by some changes in their uses. The most significant finding was that the uses of *–free* combinations increase as the phrases *free from/of* decrease, both in predicative complement function.

In order to test whether the combinations develop from the phrases *free from/of*, I researched all 21 combinations with *–free* available in the OED in the corpora[29] of LModE and PDE, in both *free from/of* and *COMB with –free* patterns (for more information on the patterns of the adjective *free* see §2.3.4.1 in Chapter 2). Table 3.4 below presents my search results.

		free from/of	COMB with –free
1. toll-free	LModE	-	-
	PDE	1/0.0001	18/0.002
2. shot-free	LModE	-	-
	PDE	-	-
3. room-free	LModE	-	-
	PDE	-	-
4. scot-free	LModE	-	5/0.003
	PDE	-	19/0.002
5. wreck-free	LModE	-	-
	PDE	-	-
6. rent-free	LModE	-	1/0.0005

[29] The choice of corpora was the same as in Chapter 2, for more details see Methodology §2.3.3.

	PDE	5/0.0006	38/0.004
7. pierce-free	LModE	-	-
	PDE	-	-
8. stick-free	LModE	-	-
	PDE	-	-
9. thoughtfree	LModE	2/0.001	-
	PDE	2/0.0002	-
10. duty-free	LModE	2/0.001	2/0.001
	PDE	4/0.0004	100/0.012
11. post-free	LModE	-	-
	PDE	-	1/0.0001
12. postage-free	LModE	1/0.0005	-
	PDE	-	2/0.0002
13. carefree	LModE	11/0.007	-
	PDE	5/0.0006	173/0.02
14. level-free	LModE	-	-
	PDE	-	-
15. ice-free	LModE	1/0.0005	-
	PDE	3/0.0003	22/0.003
16. child-free	LModE	-	-
	PDE	2/0.0002	6/0.0007
17. gluten-free	LModE	-	-
	PDE	-	5/0.0006
18. parenthesis-free	LModE	-	-
	PDE	-	-
19. hands-free	LModE	1/0.0005	-
	PDE	-	2/0.0002
20. needles-free	LModE	-	-
	PDE	2/0.0002	-
21. seamfree	LModE	-	-
	PDE	-	2/0.0002

Table 3.1: The combinations with *–free* listed in the OED and searched in the corpora of LModE and PDE.

The table above seems to confirm my hypothesis. The original payment related expressions were found in the LModE corpora as combinations with *–free* (see *scot-free* and *rent-free*). However, in the remaining cases, the phrases *free from/of* tend to be recorded before the combinations with the corresponding noun and *–free* (see *carefree*, *ice-free*, *postage-free*). Such pathway of development is typical of grammaticalisation of adjectives into suffixes and was previously discussed by

Hopper and Traugott (1993:7) who argued it to be a part of the cline of grammaticalisation (see §3.3.4 above).

As an illustration, the most frequent combination with *–free* in PDE — *carefree*— does not appear as a combination in LModE, but it has 11 (normalised value 0.007) occurrences in *free from/of* form (as in (29)). In PDE, the frequency of *free from/of care* dramatically decreases, despite the fact that the corpus is much larger. There are only 3 (0.0003) tokens of *free from/of care(s)* (as in (30)) and 173 (normalised 0.02) of *carefree* (as in (31)).

(29) […] to judge by your merry laugh, you must be as **free from care** as I am.

PPCMBE/Playing with Fire/fiction/1861

(30) Live merrily, O my friends, **free from cares**, perplexity, anguish, grief of mind, live merrily […]

BNC/Gardens of Meditation/religion/1975-1984

(31) A handsome, well-groomed young man with a boyish, carefree face smiled back at them.

BNC/Sons of Heaven/fiction/1985-1994

As discussed in this section, the most probable origin of the combinations with *–free* are OE payment related compounds which expanded to bases expressing more varied meanings, aided by phrases *free from*/*of* + *noun*. In that case, the adjective *free* used in those combinations seems to be undergoing grammaticalisation and becoming a suffix. The next section will test that claim against Lehmann's parameters of grammaticalisation and Hopper's grammaticalisation principles.

3.4.3 Parameters and principles in the development of *–free*

As mentioned above (§3.1), the present section will focus on the formal signs of grammaticalisation of *–free* used in combinations with nouns in a suffix-like manner, especially taking into account the parameters by Lehmann (1985) and principles by Hopper (1991).

Attrition can manifest itself in the losses of meaning, phonological substance and the ability to inflect. According to the OED, the adjective *free* is characterised by

two pronunciation options, i.e. Brit. /friː/ and U.S. /fri/ (*free*, adj.). Although the shorter version seems usual for the American pronunciation, it seems that one of the expressions in the British English, i.e. *pierce-free* Brit/ˈpɪəsfri/ (*pierce-free*, adj.) resembles it, which might be the first case of the final sound shortening.

Paradigmaticisation results in more integrated paradigms. In the case of *–free*, that is especially noticeable considering the adjectives formed with *–free* as well as other suffixes, such as *–less* and *–ful*. I examined the OED and the corpora for bases that are recorded with those three formatives, proving extensive counterpart system between *–free* and *–less* as well as a moderate number of cases that were also shared with *–ful*. The results of my investigations are presented below in tables 3.2 and 3.3.

-free	*-less*	*-ful*
carefree	careless	careful
child-free	childless	-
duty-free	dutiless	dutiful
ice-free	iceless	-
needle-free	needleless	-
pierce-free	pierceless	-
post-free	postless	-
rent-free	rentless	-
room-free	roomless	roomful
seamfree	seamless	-
shot-free	shotless	-
thought-free	thoughtless	thoughtful
wreck-free	wreckless	wreckful

Table 3.2: The words ending in *–free*, *–less* and *–ful* that share bases according to the main entries in the OED.

-free	*-less*	*-ful*
carefree PDE	careless LModE, PDE	careful LModE, PDE
child-free PDE	childless LModE, PDE	- -
cloud-free PDE	cloudless LModE, PDE	- -
cost-free PDE	costless PDE	- -
duty-free	-	dutiful

LModE, PDE	-	LModE, PDE
error-free PDE	- -	errorful LModE, PDE
fancy-free PDE	- -	fanciful LModE, PDE
fear-free PDE	fearless LModE, PDE	fearful LModE, PDE
guilt-free PDE	guiltless LModE, PDE	- -
hate-free PDE	- -	hateful LModE, PDE
noise-free PDE	noiseless LModE, PDE	- -
odour-free PDE	odourless LModE, PDE	- -
pain-free PDE	painless LModE,PDE	painful LModE, PDE
sound-free PDE	soundless LModE, PDE	- -
spot-free PDE	spotless LModE, PDE	- -
stress-free PDE	- -	stressful LModE, PDE
sugar-free PDE	sugarless LModE, PDE	- -
sun-free PDE	sunless LModE, PDE	- -
waste-free PDE	- -	Wasteful LModE, PDE
weapons-free PDE	weaponless PDE	- -
value-free PDE	valueless LModE, PDE	- -

Table 3.3: The words ending in *–free*, *–less* and *–ful* that share bases in the corpora of LModE and PDE.

Condensation is demonstrated by lowering the level of grammatical structures. The phrases *free from*/*of* are used at a clause level, as exemplified in (32) below. The combinations with *–free*, however, function at NP level, as illustrated in (33). Moreover, the nouns used in *free from*/*of* phrases could be used with *free* preceded

by adjectives, determiners or in plural forms (as in (34)). Once they are used in a combination with *–free*, the two composites cannot be interrupted.

(32) And little too is needful to maintain the body sound in health, and **free from pain** […]

CLMETEV/The Nature of Things/fiction/1715

(33) As a result I had a very pleasant, stress-free, **pain-free** labour and delivery.

BNC/New Internationalist/political/1985-1993

(34) While frugal nature seeks only ease; a body **free from pains**, free from disease; a mind **from cares** and jealousies at peace.

CLMETEV/The Nature of Things/fiction/1715

Coalescence manifests itself in an increase in bondedness. The possible development of PDE combinations of *noun* + *–free* from phrases *free from*/*of* + *noun* discussed above (§3.4.2), is already a big change in that direction. Additionally, as exemplified on the case of *carefree*, which is the most frequently represented in corpora, it seems that there is also a potential for the combinations to become subordinated under adjacent accent with their noun bases. As presented below, the OED suggests two options with regards to the correct pronunciation of *carefree*. The one quoted as first, i.e. /ˈkɛːfriː/, features only one accent for the combination.

/kɛː/ + /friː/ = /ˈkɛːfriː/ and /ˌkɛːˈfriː/

OED (*care*, n./*free*, adj./*carefree*, adj.)

Layering allows the existence of more than one form expressing the same meaning, which is the case with *free from*/*of* and combinations ending in *–free*. Even though the phrases *free from/of* display a decrease in use and the numbers of combinations seem to be increasing instead, they are both in use in PDE. Table 3.4 shows the tokens of the two in the written part of the BNC, together with their frequencies per million words. As presented below, their results are similar—they are almost equally frequent in PDE.

free from/of	COMB in *–free*
2274	1988
26.4	23.1

Table 3.4: The uses of phrases *free from/of* and the combinations with *–free* in PDE.

Persistence involves a correlation between the lexical form and grammatical item that developed from it, with regards to their meaning and function. *Free from/of* + *noun* and combinations with *–free* both express two of the meaning types determined in Chapter 2, section §2.2.3, i.e. 'lacking something universally considered as harmful' (e.g. *free from pain* and *pain-free*) and 'lacking something subjectively considered undesirable' (e.g. *free from thoughts* and *thought free*).

As shown above, the combinations ending in *–free* display some of the parameters and principles suggested as determinants of grammaticalisation. The next section will discuss the possible grammaticalisation of *–free* into a suffix further, following previous studies on grammaticalisation of adjectives into suffixes (see §3.3).

3.4.4 Further grammatical change in *–free*

Grammaticalisation of independent words over time is a common way of creating suffixes in the English language. Just to give a few examples, *–hood* (as in *childhood*) originally meant 'person, personality, sex, condition, quality, rank' and was freely used in combinations with other nouns but "ceased at length to be used as a separate word and survived as a mere suffix" (OED;*–hood*, suffix). *–Ly* (as in *lovely*) "goes back to an OE ending *–lic* which was originally identical with the independent OE word *lic* 'form, shape, body'" (Barber 1993:221). *–Ful* developed from the adjective *full*, as discussed by Wełna (2000) and mentioned in §3.3.4. Similarly, *–less* (as in *painless*) originates "from the adjective *leas* 'deprived of', 'without'" (Sweet 1958:466).

The key issue for this study is whether it is possible to observe such an evolution before it has been fully completed, and if so, what changes are involved in it. The previous section (§3.4.3) reviewed the parameters (Lehmann (1985)) and principles (Hopper (1991)) of grammaticalisation that are already observable in the

combinations with *–free*. The present one will discuss it further, focusing on the most recent changes displayed by the combinations, following previous studies on the cases of adjectives grammaticalising into suffixes (§3.3).

Research on grammaticalisation suggests that compounding is frequently a mid-stage in the development of suffixes (see, for example, Van Goethem 2011 or §3.3.2 here). One of the final signs of a change from one to another is a modification in their pronunciation or stress placement, as pointed out by Barber (1993).

> There is [...] a grey area between affixation and compounding. When a compound word becomes established, it may in time undergo phonetic changes, and what was originally a free morpheme may become an affix. (Barber 1993:220)

The first aspect that needs to be taken into consideration is weakening in pronunciation. It was noticed, for example, among the majority of words with *–ful* that started to be pronounced as/–fl/ and was argued by Jespersen (1942:420) and Zandvoort (1950:23) as a sign of evolution from compounding to derivation at the time (it is also one of the parameters of grammaticalisation, discussed in §3.2 above). The second aspect of phonetic changes is stress change. Compounds usually receive primary stress on the first element and secondary stress on the second element (Adams 1973:59), while in the case of affixes there is a "tendency toward homological stress" which means that the suffixes are attached without changing stress patterns of their bases (Marchand 1969:221).

This section includes an investigation of this criterion for the combinations with *–free*, as it has been traditionally considered significant. However, it should be borne in mind that recent research questions the reliability of stress in compound examination. According to Ghesquière (2014) and Griegrich (2009) "it is a tenacious myth" (Ghesquière 2014:258) and should not be treated as a definitive criterion.

The pronunciation of combinations with *–free* has been difficult to determine due to lack of sufficient data. The OED only provides IPA[30] notations for 14 of them,

[30] International Phonetic Alphabet.

leaving the majority without any pronunciation guide. The ones with specified pronunciations will be discussed here, but their trends cannot be treated as definitive.

According to the OED, the combinations with *–free* do not follow the usual stress pattern of compounds. In British English, the combination *hands-free* Brit. /ˈhan(d)zˌfriː/ is the only one displaying the primary stress on the nominal element and secondary stress on *–free*. In the American variety, there are two, *child-free* U.S. /ˈtʃaɪl(d)ˌfri/ and *pierce-free* U.S. /ˈpɪrsˌfri/.

One of the combinations in British English, i.e. *ice-free* Brit. /ˈˌʌɪsˈˌfriː/, receives stress on both of the elements equally. There are 5 cases like that according to the American pronunciation though, these are: *hands-free* U.S. /ˈhæn(d)zˈfri/, *ice-free* U.S. /ˈˌaɪsˈˌfri/, *scot-free* U.S. /ˈskɑtˈfri/, *thought-free* U.S. /ˈθɔtˈfri/ or /ˈθɑtˈfri/ and *needle-free* US. /ˈnid(ə)lˈfri/.

The highest number, i.e. 7 of the combinations receive secondary stress on the nominal element and primary stress on *–free* (most of them both in British and American varieties of pronunciation). These are: *gluten-free* Brit. Brit. /ˌgluːt(ɪ)nˈfriː/ and U.S. /ˈˌglutnˈfri/, *parenthesis-free* Brit. /pəˌrɛnθɨsɪsˈfriː/ and U.S. /pəˌrɛnθəsəsˈfri/, *post-free* Brit. /ˌpəʊs(t)ˈfriː/, and U.S. /ˌpoʊs(t)ˈfri/, *postage-free* Brit. /ˌpəʊstɪdʒˈfriː/ and U.S. /ˌpoʊstɪdʒˈfri/, *rent-free* Brit. /ˌrɛntˈfriː/ and U.S. /ˌrɛntˈfriː/, *scot-free* Brit. /ˌskɒtˈfriː/ as well as *thoughtfree* Brit. /ˌθɔːtˈfriː/.

However, there are also five combinations in British English (and 2 of these also in American English) that display a stress pattern typical for derivatives as they get only one, homological stress: *carefree* Brit. and U.S./ˈkɛəfriː/, *childfree* Brit. /ˈtʃʌɪl(d)friː/, *pierce-free* Brit. /ˈpɪəsfri/, *seamfree* Brit. and U.S. /ˈsiːmfriː/, *needle-free* Brit. /ˈniːdlfriː/.

The second aspect traditionally considered as telling in the differentiation between the compounds and derivatives is their spelling. Derivatives are always spelled as one word but compounds are more diverse. They may be written as two separate words (‘open’ spelling as in *school board*), as two hyphenated words (as in *absent-minded*) or as one word (‘solid’ spelling, as in *homework*) (Adams 1973:59). They may also occur in two (e.g. *school-keeper* and *schoolkeeper*) or all three of the possible forms, but the tendency is for the constituents to be written separate first,

but hyphenated and/or solid when the expression becomes recognised and established in lexicon.

There are 141 combinations ending in *–free* listed in the OED, most mentioned as compounds or combinations of main entry nouns. They are almost exclusively spelled with a hyphen. Only three of them are spelled as one word (*carefree*, *seamfree*, *thoughtfree*) and one of them (*carriage free*) is spelled separately. The BNC search confirms that the hyphenated spelling is the most frequent for the combinations with *–free*. Apart from the type *carefree*, the solid and open spellings alike, appear extremely infrequently. For example, in 207 occurrences of *tax-free*, it is only once found spelled together. Similarly, in 97 occurrences of *risk-free*, there are only 2 cases of it spelled together. In 56 occurrences of *lead-free*, there are 2 tokens representing solid spelling.

Overall, the solid spelling of the combinations with *–free* is too sporadic to be interpreted as a sign of change in the spelling of combinations with *–free* altogether. Their spelling could be inconsistent as it is the case with the majority of compounds. However, it would be worth assessing this aspect again in the future to monitor possible changes.

There is another factor that is an important sign of evolution of *–free*, i.e. the significant increase in the number of its tokens and the diversity of bases to which it is attached in PDE. Frequency has been reported as an important determinant of language change (Krug 2003:26) and investigated in the fields of both linguistics and psychology. Krug (2003 and 2009) focuses on how it affects phonetics and claims that phonological loss is "a direct concomitant of the observable drastic frequency gains" (Krug 2009:341). Diessel (2007) emphasises that its impact can be even broader and explains that the "frequently used expressions (…) are often semantically/pragmatically reduced (or weakened) because repetition reduces the psychological effect on the stimulus" (Diessel 2007:117).

Following the findings of above mentioned studies, it seems inevitable that if the frequency of the combinations with *–free* continues to increase, the change in pronunciation and spelling would follow.

3.4.5 Schema of the grammaticalisation of *–free*

Following all of my analyses of the combinations with *–free* (especially those in Chapters 2 and 3) and taking into consideration previous studies on the grammaticalisation of adjectives into suffixes (as presented in §3.3 above), I decided to propose a schema of the development of *–free*.

Similarly to Wełna (2000), who proposed an alternative cline of grammaticalisation for the adjective *full*, I believe that the development of PDE combinations with *–free* happened in stages. I present a pattern of its change below, consisting of 4 sequences.

1. *tollfreo* > *toll-free*
2. *rent-free* > *gallowsfree*
3.a) *free of care* > *carefree*
   b) *free from pain* > *pain-free*
4. *sugar-free* > *value-free*, *symptom-free*

The first stage are the uses of combinations with *–free* relating to payment which developed as early as OE and some of which survived to PDE, causing creation of similar formations (e.g. *tax-free*, *interest-free*).

The second stage involves an extension of use of the combinations that seems to be triggered by semantic analogy in relation to forms in (1). The combinations with *–free* begin to express exemption from regulations in general as well as avoiding something generally considered harmful (e.g. *gallowsfree*, *scotfree*).

In the third stage, the combinations with *–free* start to be formed with nouns which had previously been used in phrases *free from/of* (e.g. *carefree*, *fancy-free*) (a). Their tokens and types begin to increase and the meanings they express extend further, to denote lack of things subjectively considered undesirable (e.g. *sugar-free*, *gluten-free*) (b).

In the final fourth stage, the combinations become very productive and are formed with a wide variety of bases, developing a generalised meaning ‘without’ (e.g. *value-free*, *zona-free*). The *–free* formative seems to have been reanalysed as a

suffix similar to *–less* and is attached to an increasing amount of bases by analogy to already existing combinations as well as derivatives in *–less*.

The cline of the development of *–free* discussed above may also be presented as a schema of grammaticalisation created using stages of affixisation determined by Van Goethem (2011:196) and a model proposed by Bauer (2007:32).

- Formative becomes part of a compound pattern, the second member remains an adjective (stages (1) and (2) in the cline above)
- Increase in productivity, while developing new meanings (aided by phrases *free from/of*) (stage (3a))
- Reanalysis of the compound, the second member loses semantic focus (stage (3b))
- Change in meaning and use generalisation (stage (4), in progress)
- Decategorisation of the second member, it becomes a suffix (stage (4), in progress)

The changes above seem very much in line with the cline I proposed. The adjective *free* used in combinations with nouns seems to be undergoing grammaticalisation and becoming a suffix; however, the change is still in progress of the fourth stage of the cline. Current grammars (e.g. Huddleston and Pullum (2002)) still classify the combinations with *–free* as adjective centred compounds (for more details see Chapter 1, §1.3). However, considering its productivity in PDE and a growing number of combinations counterpart with the derivatives with *–less*, it is very probable that more linguists are going to treat *–free* as a suffix.

3.4.6 Conclusions

The purpose of this section was to review all of my most important findings on the development of the combinations with *–free* in the context of their grammaticalisation. I applied the parameters and principles of grammaticalisation to the changes in the use of adjective *free* (§3.4.3) and showed that six of them, i.e. *attrition*, *paradigmaticisation*, *condensation*, *coalescence*, *layering* and *persistence*, are already observable in English. I also examined the recent changes that the

combinations with *–free* display in PDE (§3.4.4), the most significant of which is their increasing frequency. Finally, I proposed a cline and schema of the grammaticalisation of *–free* (§3.4.5), using my data from all of the previous sections. They describe the process of change and confirm that *–free* is in the last stage of its grammaticalisation to an adjectival suffix.

3.5 Concluding remarks.

This chapter provided a discussion on the theory of grammaticalisation, reviewed examples of studies on the grammaticalisation of adjectives into affixes and used available frameworks to perform an analysis of the development of *–free*.

The results of this analysis suggest that the adjective *free*, used in early English compounds (e.g. *tolfreo*) and phrases *free from*/*of* + *noun* (e.g. *free from care*) is undergoing grammaticalisation and becoming a derivative suffix. It was found to display several parameters as well as principles of grammaticalisation (*attrition*, *paradigmaticisation*, *condensation*, *coalescence*, *layering* and *persistence*) and a significant increase of productivity (from 13 types recorded in LModE to 191 in PDE). Additionally, it was found to follow the pathway of grammaticalisation based on the cline by Welna (2000:45) and schemas by Van Goethem (2011:196) and Bauer (2007:32).

The next chapter will further examine the combinations with *–free* as possible derivatives by focusing on five counterpart pairs ending in *–free* and *–less*. It will investigate the differences in their meaning and uses as well as possible reasons behind the formation of the combinations ending in *–free*.

Chapter 4. The comparison of combinations with *–free* and *–less*

4.1 Introduction

It is a commonly accepted view that "different forms must have a different meaning" (Haiman 1980:516, for similar views see also, for example, Bolinger 1968:127, Wierzbicka 1988:25) and that "there are no real synonyms within a language" (Nida 1958:281) as no two language elements can be semantically equivalent and used interchangeably in all of their contexts.

For example, the adjectives *sick* and *ill* seem synonymous and both mean 'unwell' (OED; *sick* adj. sense 1a) or 'not well' (OED; *ill* adj. sense 8a), as exemplified in (1). However, in (2) *sick* refers to 'the condition of vomiting' (OED; *sick* adj. sense 2a) which cannot be expressed by *ill*; while in (3) *ill* indicates 'unsatisfactory, not up to standard' which cannot, in turn, be expressed by *sick*.

(1) I feel ill.
I feel sick.

(2) *I was ill five times tonight.
I was sick five times tonight.

(3) Their study was ill researched.
*Their study was sick researched.

The same principle applies to affixes, as they may carry similar meanings but there always seems to be a difference in the meaning of their resulting formations. For instance, *a–* and *im–* are prefixes indicating different shades of negation. However, they differ significantly even when attached to the same base. *Amoral* "means 'not moral', i.e. outside the domain of morality", while *immoral* "means 'wrong', 'wicked'" (Room 1988:282).

Along the same lines, the formatives *–less* and *–free* seem to share the privative meaning 'without' and sometimes also bases to which they are attached. Both of the formatives originate from independent adjectives, express privative

meanings and, in some cases, are attached to the same bases, as exemplified in (4) below.

(4) *child-free*

childless

As mentioned in the introduction (Chapter 1, §1.1), the semantic relation between *–free* and *–less* has so far only been addressed by Górska (1994, 2001). According to her, the adjectives ending in *–less* imply a negatively evaluated resultant state that is "beyond human control" (Górska 1994:419). The adjectives ending in *–free*, on the other hand, describe a state where the human agent "has control over the course of events and […] intentionally changes it in order to obtain a state […] that he himself desires" (Górska 1994:422).

I agree with the general idea of Górska's argument. However, my corpus searches revealed that there are some exceptions to her rule, among both types of combinations. There are some well-established derivations with *–less* that do not follow her scheme of non-intentional, negatively evaluated result. An example is provided in (5) below:

(5) *spotless* kitchen

The OED defines *spotless* as 'free from spot or stain', 'immaculate' (OED, *spotless*, adj. senses 1 and 2). The state of being *spotless* is not negative and it is usually not beyond human control, at least with regards to places, such as *kitchen* above.

Conversely, there also are cases of combinations ending in *–free* that are not clear results of human agent's action. Again, consider example (6) below:

(6) *cloud-free* sky

This combination has not yet been mentioned by the OED but appears in the corpus. It seems to contradict Górska's argument, as *clouds* are not something for people to control and eliminate, even if they wished so.

In the present chapter, I will revisit the topic of *–free* and *–less* relation in PDE. The remaining part of this section will introduce the concepts relating to corpus-based discourse analysis. Sections §4.2- §4.6 will provide a practical analysis of a set of recent counterpart pairs which end in *–less* and *–free* and share the same bases (i.e. *careless*/*carefree*, *childless*/*child-free*, *painless*/*pain-free*, *sugarless*/*sugar-free* and *valueless*/*value-free*). I will attempt to explain differences

between the pairs on the basis of their uses in two corpora of language (BNC and COCA). Additionally, I will discuss possible social changes that might have led to the development of some of the coinages with *–free*. The final section (§4.7) summarises the main findings with some brief concluding remarks.

4.1.1 Critical Discourse Analysis

The changes in a language, especially new words, can tell us a lot about the changes within society. As noted by Baker (Baker 2011b:66): "[l]anguage does not develop in isolation but has a dialectical relationship with culture, both reflecting and spurring on changes in everyday life". Considering that all of the formations ending in *–free* among my pairs are more recent than their counterparts in *–less*, they are assumed to refer to new or reconceptualised concepts, somehow competing with the old ones.

As I describe in the methodology (§1.5 above and §4.1.2 below), my research is corpus-based—I will use the BNC and COCA to investigate the uses of my pairs and attempt to compare the differences as well as similarities between them. However, I will interpret my findings using Critical Discourse Analysis concepts (see, for example, Fairclough 1995, Reisigl and Wodak 2001, Fairclough 2003), attempting to reveal the ideological underpinnings of the discourses, traced through the use of investigated pairs. This is a corpus-based study and CDA is not the main analytical method of my research, but it is used in order to enhance the corpus analyses of my pairs and to explain possible reasons for the invention of the formations ending in *–free*.

The concept of discourse has been approached in several ways. It is sometimes defined as "language above the sentence or above the clause" (Stubbs 1983:1) and its analysis refers to the examination of text structure and pragmatics. Another view of discourse, which I will follow in this study, derives from the idea that words only develop meanings in contexts of use and that, as a result, the contexts in which the words are used might change how we understand them.

One of its most famous, ideological definitions is by Foucault (1972:49), who identifies discourses as "practices which systematically form the objects of which they speak". Burr (2003:64) describes them as "a set of meanings, metaphors,

representations, images, stories, statements and so on that in some way together produce a particular version of events". Fairclough (2003:124) has differentiated between the abstract meaning of discourse as the 'domain of statements' and its more concrete meaning, i.e. "groups of statements or the 'regulated practice' (the rules) which govern such a group of statements". His expanded interpretation mentions the possible relationships between discourses:

> I see discourses as ways of representing aspects of the world—the processes, relations and structures of the material world the 'mental world' of thoughts, feelings, beliefs and so forth, and the social world. […] Different discourses are different perspectives on the world, and they are associated with the different relations people have to the world, which in turn depends on their positions in the world, their social and personal identities, and the social relationship in which they stand to other people (Fairclough 2003:124).

Discourses are therefore linked to perspectives from which people view particular aspects of the world, depending on their beliefs, lifestyles and interests. Any innovations in those might result in changes of discourses and developments of new expressions to refer to the new ways of seeing particular concepts. This study will attempt to uncover discourses behind some of the recent formations ending in *–free*, comparing them to their existing counterpart expressions in *–less* and trying to account for possible reasons why those new formations were created.

The analysis of discourse can also be interpreted in many ways. I will follow the approach that developed around the 1990s, when it started to be used "more critically to examine issues relating to **POWER**, inequality and **IDEOLOGY**[31]" (Baker 2011a:32) and started to be referred to as Critical Discourse Analysis (CDA). The basis of the relationship between those concepts and discourses is that since discourses construct various aspects of the world, they also participate in expressing ideologies and power relations. Here, power refers to both inequalities between speakers participating in discourse and with regards to the control over the production and distribution of texts (Fairclough 1995:1). Discourse analysis includes the

[31] Original emphasis.

investigations of competing discourses as "formerly dominant discourses may be challenged, and even replaced, by formerly marginal discourses, resulting in a shift in power relations as well as social change" (Baker 2011a:99-100). Following the definition of one of the proponents of CDA:

> Critical discourse analysis (CDA) is a type of discourse analytical research that primarily studies the way social power, abuse, dominance, and inequality are enacted, reproduced, and resisted by text and talk in the social and political context. With such dissident research, critical discourse analysts take explicit position, and thus want to understand, expose, and ultimately resist social inequality Van Dijk (2001:352).

Since there have been various approaches to discourse, there have also been many methods involving its analysis. Originally, discourse analysis involved a detailed examination of a small group of texts, focusing on their structure and its relation to meanings. Nowadays, there has been an increasing number of studies combining qualitative and quantitative methods of analysis that can involve much larger amounts of texts (Baker 2011a:32). Partington (2006:3-4) refers to an area of language investigation which draws from corpus linguistics methods in order to perform discourse analysis and calls it Corpus-Assisted Discourse Studies. Integrating the two fields has been widely discussed (see, for example Stubbs 1994, Baker 2006) as well as successfully implemented (see, for example Mautner 2007, Bauer 2013b).

Some of the most outstanding CDA research focused on topics such as gender, age and religion. The most recent studies by Baker and Levon (2015 and 2016) focus on the representations of masculinity in the British press, showing that they differ depending on ethnicity and social status. Mautner (2007) investigates the collocational profile of the adjective *elderly*, revealing its hidden discourses related to care, disability and vulnerability. Richardson (2004) and Baker (2010b, 2012c and 2013) research the representation of Muslims in British newspapers and find that the portrayal of Islam tends to be negative.

Following the above mentioned studies, there are various ways in which corpora can be employed to uncover discourses, especially due to the fact that they

consist of naturally occurring data and "have the potential to tell us as much about the values of societies they come from as they do about the language" (Baker 2010b:121). First of all, despite some of its critics point out a tendency to focus too much on the quantitative side of the analysis, the frequencies of investigated "words or related sets of words […] can be an indicator of markedness" (Bauer 2010b:125), i.e. the relations between dominant and secondary linguistic forms. The frequency is considered especially telling when comparing two lexical items in the same corpora, as it reveals word preferences and indicates further areas worth closer examinations (Bauer 2010b:127).

Secondly, the words' collocational patterns can reveal "the associations and connotations they have, and therefore the assumptions which they embody" (Stubbs 1996:172). The definition of collocation adopted here is a co-occurrence of two words within a span of 3 words on both sides of the examined word (also called the node) (see Sinclair 1991), supported by the mutual information (MI) score. A concept associated with the collocates is a collocational network, i.e. "a web of interlocking conceptual clusters realised in the form of words linked through the process of collocations" (Williams 1998:157) which shows second order collocates of a word and sheds even more light on the meaning surrounding investigated words. The networks are currently receiving a lot of attention and there have been new tools developed to help create collocational networks using corpora that can be uploaded to specialist software, such as GraphColl (Brezina, McEnery and Wattam 2015).

Thirdly, a more extensive concordance analysis allows to draw conclusions about the meanings of the investigated lexical items and their uses. It is an important element of the qualitative approach within corpus linguistics which has a potential to contribute to the critical study of language as used by the society. It "allow[s] analysts to uncover the evidence for various 'prosodies' or 'preferences', […] without them analysts are liable to make incorrect assumptions about the content of their corpus" (Baker 2010b:131).

As noted above, the analysis of a word's immediate co-text reveals semantic and discourse prosodies. The former is the "consistent aura of meaning with which a form is imbued by its collocates" (Louw 1993:157), while the latter "extends over

more than one unit of linear string" (Stubbs 2001:65) and takes into account the relation between a word and wider context in which is it used. Both of these facilitate identifying the societal values expressed by the investigated lexical items and contribute to research.

Another important aspect to consider while analysing discourses using a general corpus (such as the BNC and COCA) is to examine how different text types use the lexical item under investigation. More uniform, single-genre, and as such, smaller corpora can also be used to compare other available features, such as demographics (Bauer 2010b:124-5). Those did not turn out to reveal any particular trends when applied to my research so I will only focus on text types in which my investigated pairs appear.

Finally, when analysing discourses, it is crucial to consider "the broader socio-political and historical context" (Baker 2012b:157) which might be the reason behind why particular words are used in certain ways. It is the changes in social attitudes, motivated by historical events, which are likely to influence changes in discourses. Additionally, integrating related events into the interpretation of discourses may reveal otherwise unnoticed patterns. Socio-political context is also related to power and ideology which have a big impact on discourses and vice versa. It is also worth mentioning that power can be manifested in controlling the production and distribution of texts (Fairclough 1995:1), which is frequently dependent on a current political situation and ideologies supported by ruling bodies.

All of the above aspects are helpful in analysing discourse but there also are some concerns to be kept in mind. For example, "[h]ow should we deal with the fact that our accounts of how people's language use is conducted are themselves constructions?" (Potter and Wetherell 1987:182). It should be recognised that the discourse analyst's work is never completely detached from the social processes that (s)he studies. Despite efforts to carry out objective analyses, no researcher investigating language change from a socio-linguistic perspective is ever completely unbiased (Baker 2006:10; Baker 2010b:122), as (s)he is a member of society constantly exposed to discourses. The bias is, however, reduced by employing corpora and basing one's conclusions on widely spread patterns, rather than 'cherry-picked' examples.

Since language change has the potential to reveal changes within society, this study will apply some of the concepts drawn from CDA to interpret the meanings of recently formed formations ending in *–free* and the relationship with their counterparts in *–less*. Specifically, I will investigate the frequencies with which the counterpart pairs ending in both *–free* and *–less* appear in the corpora, analyse their contexts with regards to possible evaluative expressions, examine their collocates, manually create collocate networks, compare text types in which they tend to be used and, if possible, relate to their socio-political and historical contexts.

4.1.2 Methodology

As mentioned in the introduction (§4.1), the main aim of this chapter is to uncover the meaning differences and similarities between the pairs of combinations ending in *–less* and *–free*. The present section will review the methods used in the process of their analysis.

The selection of pairs was motivated by a few factors. After the corpus analysis performed for Chapter 2, I researched which of the combinations with *–free* discussed there had counterparts ending in *–less* in both the OED and BNC. Next, I took into consideration the variety of meanings they expressed, both with regards to the classification of meanings of the combinations with *–free*, as discussed in Chapter 2, §2.2, and presenting different meaning relations between the specific counterparts ending in *–free* and *–less*, as explained in each of the sections devoted to particular pairs in this chapter, §4.2-§4.6. Then, I searched the shortlisted pairs in the available dictionaries of modern English.

I originally consulted a high number of them, starting with Johnson 1775 and ranging from general to learners' dictionaries. However, since the majority did not include all of the pairs I was searching for, I eventually used 12 dictionaries (listed in general methodology §1.5.2) that contained the most entries. Since their definitions were the starting point for my analyses of meaning distinctions and/or similarities, I selected the 5 pairs, which were present in the researched dictionaries.

The choice of pairs was primarily motivated by an attempt to present a variety of meanings expressed by *–free* and the complexity of its relationship with *–less.* With that view, I selected pairs that represent different meaning relations

between the two formatives and appear in the corpora frequently enough to discuss their uses.

The resultant pairs that will be discussed in more detail are:

- *careless*/*carefree* and *painless*/*pain-free*, exemplifying the 'lack of something universally acknowledged as harmful' meaning expressed by combinations ending in *–free*,
- *childless*/*child-free* and *sugarless*/*sugar-free*, illustrating the 'lack of something subjectively considered as undesirable',
- *valueless/value-free*, as an example of 'without something' meaning of *–free*.

To investigate the similarities and differences between the pairs, I needed a corpus large enough to contain a satisfactory number of their examples of use and a framework to help me examine meanings associated with them.

Originally, I only used the BNC for this study but it yielded too few examples for combinations that are very recent, especially since it only covers the PDE period up to 1993. For that reason, I decided to add the COCA corpus to my analysis of this chapter, as it is another large, multi-genre and freely available online corpus that is four times bigger than the BNC and includes texts up to 2012. Since my interest in the combinations ending in *–free* and *–less* has not been restricted to their uses in the British variety of English, the fact that COCA consists of American English texts was not considered a disadvantage. Also, there is a lot of successful research using both the BNC and COCA, most of which is listed on http://corpus.byu.edu/publicationSearch.asp[32].

My analysis of combinations with *–less* and *–free* is both quantitative and qualitative and applies concepts and methods drawn from CDA (see §4.1.1 above). I used the BNC and COCA to research the frequencies and examine the contexts in which particular pairs are used, focusing especially on the evaluation they express, their collocations and genres in which they appear. The details of my analysis will be discussed in the remaining part of this section.

One of the concepts central to revealing the differences between adjective pairs ending in *–less* and *–free* was *semantic prosody*, i.e. the semantic aura of a

[32] These include, for example, Kaunisto (2009), Mair (2011), Louw and Milojkovic (2014).

word that reveals the speaker's or writer's hidden attitudes towards it (Louw 1993:157). I investigated the semantic prosodies associated with the pairs using two methods, namely, the parameters of evaluation proposed by Hunston and Thompson (2000) and the analysis of collocations (or lexical items) used with the members of examined pairs.

First, since (as observed by Mautner 2007:56) semantic prosodies are strongly related to "the indication that something is good or bad" (Hunston 2004:157), I decided to examine the uses of my pairs against the following evaluation parameters identified by Hunston and Thompson (2000):

-good/bad (or positive/negative, which I will use here), the most basic and crucial of all, depending on the values represented by the text and what is described as desired and undesired, using lexis expressing positive and negative attitudes towards a concept;

-certainty, expresses how sure the writer is about what is being said and is signalled by modal expressions (such as *surely*, *maybe*, *doubtfully* etc.) or modal auxiliaries (such as *will*, *might* etc.);

-expectedness, implies the obviousness of what is being expressed and, as a result, acceptance towards it (such as *obviously*, *clearly* etc.);

-importance (or relevance), indicates what is considered important to the writer and is expressed by adjectives and/or adverbs (such as *essential*, *trivial* etc.) that convey the level of significance of what is being said (Hunston and Thompson 2000:22-25).

The analysis of a sample of my data showed that the only parameter applicable to this study is the positive/negative one, the other three were very infrequent, i.e. appeared in only 5 out of a 100 examples, on average. The reason for this may be that different types of evaluation perform different functions and are genre specific. For instance, the certainty parameter is significant in academic articles, while the parameters of importance and expectedness perform 'text-oriented' functions and are frequently found in the introductory as well as final paragraphs of discourse (Hunston and Thompson 2000:24). The positive/negative parameter is, out of all four, the least genre-specific, and as such, the most frequently found. The other types of evaluation will not be discussed in detail here.

However, I will still comment on them if they will be present in the quotes I use, trying to enhance and support the analyses of positive/negative parameter.

In my analysis of the parameters, I focused on evaluative expressions provided in the immediate context of the pairs ending in *–free* and *–less*, as according to Hunston and Thompson (2000:14), "some lexical items are very clearly evaluative, in the sense that evaluation is their chief function and meaning", which is the case for, for example *important*, *happily*, *success* as well as *terrible*, *unfortunately* and *doubt*. I have examined the corpus uses of my pairs, searching for expressions carrying positive or negative meanings to determine the differences in evaluation of formations with *–free* and *–less*. The most significant evaluative vocabulary found with particular members of pairs will be mentioned in their sections to shed more light on the meanings associated with them. The occurrences that did not display a clear evaluation, either due to lack of any evaluative expressions or including both positive and negative expressions in the same quotation, were classified as 'unclear'.

As the next step of my analysis, I used the http://corpus.byu.edu/ interface to generate lists of lexical collocates of my selected pairs in the two corpora, considering that "prosodies can sometimes be elicited from examining a list of strong collocates of a word" (Baker 2010b:133). The built in statistical tool bases its calculations on Mutual Information[33] (henceforth MI) values, which demonstrate the frequency of collocates occurring in combination, as opposed to separately from each other (Baker 2013a:37).

Admittedly, the MI is questioned by some due to the fact that it focuses on the frequency of the words appearing together as opposed to separately, while it does not take into account the frequencies of those words in general. I considered using other statistical measures instead of MI (such as log-likelihood score or t-

[33] The MI formula according to which the website calculates it is as follows: MI = log ((AB * sizeCorpus) / (A * B * span)) / log (2), where A stands for the word's frequency, B for the collocate's frequency, AB for the frequency of the node word and collocate occurring together within a chosen span, sizeCorpus is the number of corpus words, span is the chosen amount of words left and right to the node word which will be taken into account during the collocation search, log (2) is the log10 of the number 2 (.30103).

score); however, since it was provided by the interface through which I searched the corpora, I decided to follow it.

My collocate search included 3 words on both sides of the node words, with the MI value above 3, as suggested by Church and Hanks (1990:24), who argue that such settings tend to produce linguistically interesting results. Ideally, I would discard all items with frequencies below 5, which has been recommended by, for example, Church and Hanks (1990:24) and Mautner (2007:57), but I could not do it for some of the combinations with *–free* as they simply have not developed such strong collocates yet. In those cases, I restricted my searches to only 2 appearances, which will be noted in table descriptions of particular subsections. Bearing in mind that their frequency is lower than advised, I will refer to resultant words used with particular members of investigated pairs as 'lexical items' rather than 'collocates'.

It has been noted by Clear (1993:277), however, that even single occurrences could be signs of many more "since the corpus is merely a minuscule sample of the totality of language in use" so the results with frequencies below 5 will still be discussed here but should be considered with caution, especially since the MI results have been admitted to be producing unusually (and sometimes unreliably) high values for infrequent collocations (see, for example, Clear 1993: 280, Bartsch 2004:104).

With the aim to further examine relations between the collocates, I followed Baker (2006:116-118) and prepared collocational networks for the investigated pairs. Collocational networks are figures that show two levels of associations—first, the primary collocates of a particular word that are also each other's collocates (presented in squares); second, the collocations that those primary collocates share among each other (displayed in circles), that constitute secondary collocates of the investigated word. Such a network is another way to observe "links between words which point at different types of discourses" (Baker 2006:116).

My searches for collocational networks included the first 25 collocates of all members of the investigated pairs, with frequency of 5 or above and MI above 3.0, searched within the span of -3+3 words. The searches were manually performed both in the BNC and COCA, according to the corpus in which the collocates were originally found (if they were found in both, they were searched in both of them). In

fact, the networks were originally prepared separately for the two corpora but because they shared a lot of associations, they were joined into one per word. I decided to use colours to facilitate the examination of the networks and mark whether the relation between the primary collocates was mutual or not (if so, there would be two links of two different colours, matching the colours of squares of the respective words). There is no colour coding or specific significance with regards to colours used for particular collocations.

It should also be mentioned that the collocates of particular members of pairs that are not included in the network are by no means less significant, "just that the discourses around them are negotiated through a more straightforward linear relationship between them and the [central] word […], rather than being part of a network of interrelated terms" (Baker 2006:117).

Next, I examined genres in which the members of pairs appear. I had initially considered also genders and ages of the speakers/writers that are also provided by the corpora interface but they did not provide me with any significant results and will not be discussed here. With regards to genres, I followed the genre classification as applied at http://corpus.byu.edu/ (for more information on the genres in COCA, see, for example, Davies 2010), the interface via which I searched the two corpora. The classification consists of spoken, fiction, (popular) magazine, newspaper and academic text types for COCA and of all of those plus miscellaneous for the BNC (which also include non-academic text, not discussed here as there is no corresponding text type in COCA).

As mentioned above, even though it is not the main topic of my research, all of the above mentioned concepts are related to CDA. The final part of the analysis of each of the pairs is a brief contextualisation of my findings with regards to ideology changes in society that might have motivated the appearance of combinations ending in *–free*.

4.2 Inattentive and light-hearted: *careless/carefree*

The adjectives *careless* and *carefree* seem to be the earliest of the combinations with *–less* and *–free* discussed here, according to the OED. The subsections are divided as follows: §4.2.1 will review the information available about them in the dictionaries, §4.2.2.1 will focus on *careless* in the corpora and §4.2.2.2 on corpora uses of *carefree*. Additionally, §4.2.3 will briefly discuss the changes in how *carefree* and *careless* were perceived in the history of English. I will end this subsection with a summary of my findings.

4.2.1 *Careless* and *carefree* in the dictionaries

According to the OED, *careless* dates back to the OE period (OED; *careless*, adj., sense 2). It is listed in all of the researched dictionaries, which makes it possible to observe its meaning development. The earliest of the cited dictionaries explains its two meanings at the time as '[f]ree from care or anxiety; whence undisturbed, cheerful' and 'having no care, heedless, negligent, unthinking, inattentive, regardless' (The Imperial Dictionary of the English Language 1882:398). The Concise Oxford Dictionary of Current English offers a similar definition and explains it as 'unconcerned, lighthearted, inattentive, negligent (of), thoughtless, inaccurate' (Fowler and Fowler 1951:178). However, in the second half of the twentieth century this meaning, which seems now to be associated with *carefree*, seems to be mentioned only as a tertiary sense, apart from the Longman Dictionary of the English Language (1984:218) which continues to list it as first. The twenty first century dictionaries focus mainly on its second meaning, such as '[i]f you are careless, you do not pay enough attention to what you are doing, and so you make mistakes, or cause harm or damage' (Collins COBUILD Advanced Learner's English Dictionary 2006:205).

The OED dates the beginning of *carefree* to 1795 (OED; *carefree*, adj.). Already from its earliest definitions, it seems that it took over the meaning 'without worry, responsibility' (Collins Dictionary of the English Language 1980:229) that was originally also associated with *careless*. The two seem to be used interchangeably until the end of the twentieth century, as 'irresponsible' is listed as a secondary

meaning of *carefree* in the Longman Dictionary of the English Language, which even suggests that *careless* and *carefree* are synonyms (1984:218). However, from the twenty first century, the meanings expressed by the two formations seem to have become established in the PDE and the use of *carefree* is explained as 'a carefree person or period of time does not have or involve any problems, worries, or responsibilities' (Collins COBUILD Advanced Learner's English Dictionary 2006:205).

4.2.2 *Careless* and *carefree* in the corpora

4.2.2.1 *Careless* in the corpora

I examined all of its occurrences in the BNC and COCA corpora using Hunston and Thompson's (2000) positive/negative parameter. The results of my analysis of 532 examples from BNC and 1669 examples from COCA are presented below in tables 4.1 and 4.2. There were 12 and 34 occurrences deleted from my concordance lists, from the two respective corpora. These were repetitions, song titles (e.g. *Careless Whisper*) and surnames (e.g. *William Careless*).

The occurrences of *careless* that I classified as 'positive' seemed to express its early meanings 'free from anxiety' or 'unconcerned' and were used among other positive expressions, such as *cheering*, *confident* and *laughing*. In contrast, I marked them as 'negative' when their meaning implied being 'negligent', as they appeared with negatively evaluated words, such as *cruel*, *defective*, *incompetent*, *misleading*, *mistaken*, *stupid* and *thoughtless*. Lastly, they were classified as 'unclear' when their context of use seemed neither positive nor negative, or occasionally, when both types of evaluations were present and it was difficult to evaluate the meaning associated with *careless* (e.g. *a graceful but careless bow*).

corpus and years	evaluation	frequency	per mil	percentage
BNC 1960-1993	positive	13	0.13	2%
	negative	365	3.76	69%
	unclear	154	1.59	29%
Total		532	5.53	100%

Table 4.1: The evaluation of the uses of *careless* in the BNC, according to the positive/negative parameter.

corpus and years	evaluation	frequency	per mil	percentage
COCA 1990-2012	positive	60	0.13	4%
	negative	1105	2.38	66%
	unclear	504	1.09	30%
Total		1669	3.60	100%

Table 4.2: The evaluation of the uses of *careless* in COCA, according to the positive/negative parameter.

As presented above, the data obtained from both corpora seem to display similar trends. *Careless* was found to be used mainly in negative (69% and 66%) and unclear (29% and 30%) contexts. Its positive uses were very rare.

Next, I investigated the collocates of *careless*. Table 4.3 displays the results of the BNC and table 4.4 of the COCA corpus. Since the collocates from both tables seem to belong to specific semantic fields, those will be discussed in more detail below, using Hunston and Thompson's (2000) positive/negative parameter of evaluation.

corpus and years	collocations	frequency	MI
BNC 1960-1993	shrug	7	8.76
	driving	48	7.83
	handling	11	6.83
	riding	7	6.40
	causing	5	5.54
	talk	22	5.34
	guilty	5	5.54
	lives	7	4.35
	death	11	4.05
	caused	5	4.00
	costs	7	3.78
	word	5	3.01

Table 4.3: The collocates of *careless* in the BNC, ordered according to a decreasing MI value.

corpus and years	collocations	frequency	MI
COCA 1990-2012	thoughtless	6	9.45
	negligent	5	8.01
	reckless	13	7.99

	hasty	5	7.72
	campers	6	7.56
	irresponsible	7	6.99
	shrug	7	6.96
	disregard	5	6.93
	sloppy	5	6.92
	remark	9	6.77
	indifferent	5	6.64
	arrogant	5	6.44
	mistakes	16	6.07
	handling	15	6.01
	disposal	6	5.86
	gesture	9	5.75
	driving	24	5.14
	drivers	8	5.04
	habits	6	5.04
	stupid	10	4.99
	casual	5	4.84
	mistake	12	4.77
	manner	8	4.24

Table 4.4: The collocates of *careless* in COCA, ordered according to a decreasing MI value.

First of all, the majority of the collocates above are adjectives describing people's attitudes (such as *guilty*, *thoughtless*, *negligent*, *reckless*, *hasty*, *irresponsible*, *sloppy*, *indifferent*, *arrogant* and *stupid*) or physical, both verbal and non-verbal, ways to express them (such as *word*, *talk*, *remark*, *manner*, *shrug* and *gesture*). The contexts of use of all of those collocations express negative evaluation, which will be illustrated below (see (7) and (8)).

> (7) But as a temporary resident in the land of the disabled, I learned permanent lessons about how erratically " normal "[34] people treat the " abnormal. " Many are *kind*, but some are **careless**, ***indifferent***, *hasty*, *bad-tempered*, or *cruel*.
>
> COCA/Academic Scholar/academic/1998

[34] The corpus examples are exact quotations; their orthography remained unchanged even if it differed from the style guide used in this thesis.

The above passage includes *careless* among a few other adjectives describing how badly the healthy might treat the ones who struggle with some kinds of illnesses or disabilities. It admits that most people feel sympathetic. However, there are also the ones that are not compassionate, but *careless* or even *cruel* instead. The majority of words expressing evaluation (presented in italics) are clearly negative, which shows that the meaning associated with *careless* must also be so in this context.

> (8) The adult Eileen was quite *intelligent* enough to understand the *devastating effects* of those **careless words** on the child she had been -- although she did not *blame* her mother in any way for using them. Because the *panic attacks* had become a habit with her, I spent a few sessions with Eileen teaching her how to overcome them.

BNC/Hypnosis Regression Therapy/miscellaneous/1985-1994 [my emphasis, MG][35]

Even though *words* do not seem to express clear evaluation on their own, the use above suggests that *careless words* may have *devastating effects*. In this context, they came from the speaker's mother and are presented as very damaging. It is even suggested that they have caused her to experience *panic attacks* as a result.

Another group of collocations relates to the physical control of vehicles or animals, represented by *driving*, *drivers* and *riding*. They are all used to express negative attitudes by the commentators, highlighting the dangerous consequences of unskilled driving cars or riding horses (see (9) and (10) below).

> (9) Suppose that an infant who has hired a horse *injures* it by **careless riding**. In such a case an adult might be held liable either for *breach* of his contract to use *proper care* or for a *wrong* independent of the contract; an infant has been held not to be liable at all.

BNC/Introduction to English Law/academic/1960-1974

The above quotation is an extract from a legal textbook, explaining the procedure in case of a child's *careless* horse *riding*. Most of its evaluative expressions carry negative meanings, for example *injuries*, *breach* and *wrong*. It clearly explains that an adult accompanying the child would be held liable for any damages.

[35] Unless stated otherwise, the italics and boldface emphasis in the corpus examples are my own [MG].

(10) Years before her son was old enough to get a driver's license, she began reading aloud articles about **careless** teenage **drivers** who *caused accidents* because they were *drunk*, *high* or *speeding*.

COCA/Denver Post/newspaper/2000

This passage presents a parent's method to teach her child about the risks of *careless driving* via reading the reports of real life collisions. It mentions their causes, for example being *drunk*, *high*, *speeding*, as well as results, i.e. *accidents*, all of which express negative evaluation.

Another two items from the tables that seem to be used in similar contexts are *handling* and *disposal* (see (11) and (12) respectively), both of which imply poor storage of dangerous materials and causing damage as a result. *Disposal* usually appears in the contexts of hazardous substances, such as *medications*, *trash* and *toxic waste*. *Handling* seems to be applicable to more cases; it includes dangerous objects, such as *guns* and *nuclear materials*, but it can also be used with everyday materials such as *wood*, or even more abstract concepts, such as *complaints*.

(11) Libraries and archives face many technical challenges in preserving photographic audiovisual materials. The physical and chemical composition of these materials often leads to their rapid *decay*, particularly in *poor* storage conditions, and makes them easily susceptible to *damage* because of **careless handling**.

COCA/Library Resources and Technical Services/academic/2012

This passage discusses difficulties in storing library resources. It uses negative terms, mentioning their *damage* and *decay* in *poor* conditions. *Careless handling* is also referred to as one of the reasons for the deterioration of those valuable materials.

(12) Several studies indicate that some flea and tick treatments can cause *serious* health *problems* in pets - particularly if *improperly* applied - and **careless disposal** of medications creates *toxic* byproducts in landfills and, via leaching, waterways.

COCA/Environmental/magazine/2011

The above quotation warns about the implications of improper use and disposal of flea and tick treatments that can result in animal illnesses as well as the contamination of landfills and water. It includes negatively evaluated words such as

serious, *problems*, *improperly* and *toxic*, indicating that *careless disposal* causes harmful environmental effects.

Lastly, the majority of remaining collocates from the tables above either express clear negative evaluation themselves (for example *death*, *disregard* and *mistake*/*mistakes*) or hidden semantic prosody (such as *campers*, *costs* and *caused*/*causing*), the uses of which are presented below in (13) and (14).

> (13) Some of these characteristics include but are not limited to: (1) often *fails* to give close attention to details or makes **careless mistakes** in schoolwork; (2) often does not follow through on instructions and *fails* to finish schoolwork; (3) often does not seem to listen when spoken to directly; (4) often has *difficulty* organizing tasks and activities […]
>
> COCA/Journal of Instructional Psychology/academic/2002

The extract above lists problems faced by children suffering from Attention Deficit Hyperactivity Disorder (ADHD). Many of those relate to *failing* and *difficulties* in understanding and performing various school tasks, all of which suggest negative evaluation.

> (14) Throughout the town fences and hedges have been *ripped down* by tenants who want to use their gardens as impromptu garages.' We should not expect our tenants to have to look at the *mess* **caused** by their **careless** neighbours,' said Coun Dixon.
>
> BNC/Northern Echo/newspaper/1985-1994

The final quote expresses discontent about damage to fences and hedges in a particular residential area, addressed here as clearly negative *mess*. Previous scholarship confirms the negative semantic prosody of *cause* (see, for example, Stubbs 1995a:247) which usually precedes something unpleasant.

With the aim to further investigate the relations between the collocates of *careless*, I prepared its collocational network (see §4.1.2 Methodology) and plotted links between the lexical items from tables 4.3 and 4.4. The results are presented in figure 4.1 below.

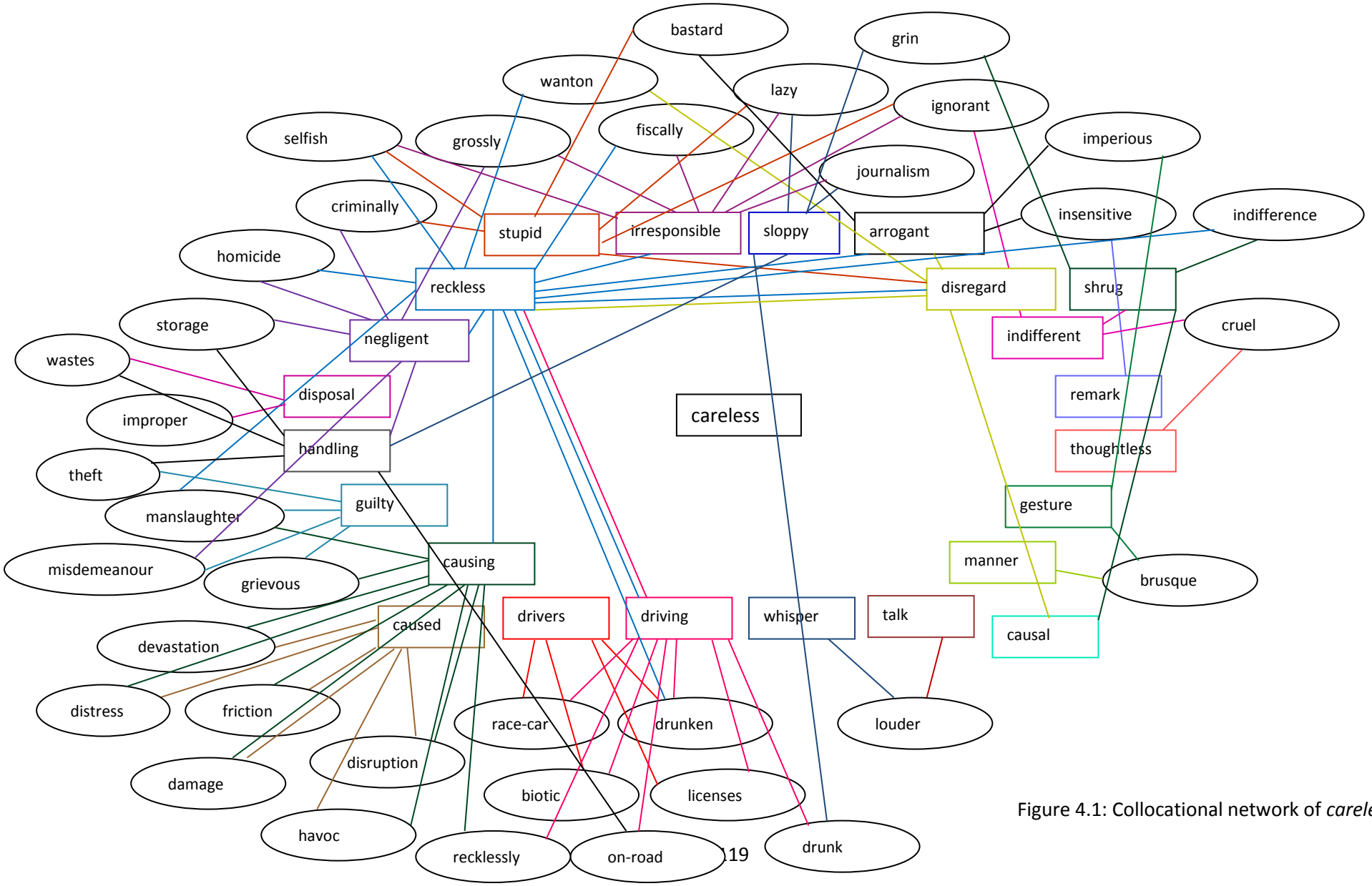

Figure 4.1: Collocational network of *careless*.

As presented above, many of the collocates of *careless* are linked with each other, both on a primary and secondary level. It is also striking that the words with the highest number of links convey negative meanings, on both collocate levels. The network element which seems to display the highest number of links is *reckless*. It included other network members as its collocates, i.e. *driving*, *causing*, *negligent*, *irresponsible*, *arrogant* and *disregard*. It is also related to *stupid*, *guilty* and *shrug* via collocates that they share. Moreover, the network also confirms my earlier claims on the relationship between *handling* and *disposal*, as well as *driving* and *drivers*.

As the last factor of my analysis, I discuss the genres in which the occurrences of *careless* were distributed in the BNC and COCA corpora. The results are presented in tables 4.5 (BNC) and 4.6 (COCA) below.

corpus and years	variety	genre	frequency	per mil	percentage
BNC 1960-1993	spoken		19	1.91	4%
	written	fiction	208	13.08	39%
		magazine	34	4.68	6%
		newspaper	63	6.02	12%
		academic	59	3.58	11%
		miscellaneous	149	8.28	28%
		total	532	5.82	100%

Table 4.5: The distribution of *careless* in different genres of the BNC.

corpus and years	variety	genre	frequency	per mil	percentage
COCA 1990-2012	spoken		127	1.33	7%
	written	fiction	822	8.88	49%
		magazine	343	3.59	21%
		newspaper	190	2.06	11%
		academic	207	2.27	12%
		total	1669	3.60	100%

Table 4.6: The distribution of *careless* in different genres of COCA.

As showed in the tables above, *careless* is found especially frequently in fiction (39% and 49%). There is a difference in its percentage of uses in magazines—it amounts to only 6% in the BNC but reaches 21% in COCA. The rest of its uses is distributed among remaining text types, which suggests that it is a widely used adjective with an established meaning.

I also attempted to investigate the use of particular meaning groups discussed above in different genres. Despite a wide and relatively balanced distribution of *careless* in all of the genres, it seems that its application in the contexts of people's verbal and non-verbal communications (e.g. *shrug*, *gesture*, *whisper*) are used especially frequently in fiction (62% of all of their uses); while the mentions of controlling vehicles (e.g. *driving*, *drivers* and *riding*) appear mainly in newspapers (68% of all of their uses). A closer examination of the uses of *careless* in magazines shows that its frequency increased especially in texts focusing on child rearing as well as advice columns to men and women.

4.2.2.2 *Carefree* in the corpora

Similarly to the previous subsection, I will start the discussion of meanings and uses of *carefree* with the evaluation of meaning according to Hunston and Thompson's (2000) positive/negative parameter. I analysed the contexts of its 176 uses in BNC and 882 uses in COCA, the results of which are displayed in tables 4.7 and 4.8 below. It should be mentioned that there were also 10 uses of *carefree* deleted from BNC and 58 from COCA. These were the names of products (*Carefree Panty Shields*), ski passes (*Carefree Pass*) and the name of a town in Arizona.

I classified the occurrences of *carefree* as 'positive' when they were used with other positive expressions such as *joys*, *smile*, *delight*, *youthful*, *light-hearted*, *marvellous*, *relaxing* etc. In turn, I evaluated its uses as 'negative' when they appeared with expressions such as *childish*, *dangerous*, *indifferent*, *ignorance* and *spoiled*. When there did not seem to be any evaluation of the context, I classified the *carefree* uses as 'unclear'.

corpus and years	evaluation	Frequency	per mil	percentage
BNC 1960-1993	positive	107	1.10	64%
	negative	23	0.24	14%
	unclear	36	0.37	22%
Total		166	1.73	100%

Table 4.7: The evaluation of the uses of *carefree* in the BNC, according to the positive/negative parameter.

corpus and years	evaluation	Frequency	per mil	percentage
COCA 1990-2012	positive	624	1.34	71%
	negative	49	0.11	5%
	unclear	209	0.45	24%
Total		882	1.90	100%

Table 4.8: The evaluation of the uses of *carefree* in COCA, according to the positive/negative parameter.

As presented in tables 4.7 and 4.8 above, *carefree* appears most frequently in positive and unclear contexts. Very rarely it was used carrying a negative meaning. In fact the proportions of the evaluation of *carefree* seem inversely proportional to the ones of *careless*, characterised by 2/3 of negatively evaluated uses and 1/3 of unclear uses.

As the next step of my analysis, I discuss the collocates of *carefree*. Similar to *careless* (§4.2.2.1), it was possible to search for the collocates with frequency of 5 or above, MI of over 3.0 and within the span of -3+3 words. Table 4.9 displays the resultant list of collocates fulfilling those conditions in the BNC corpus. Table 4.10 shows the first 25 lexical collocates in COCA. I will discuss the most significant semantic groups from both tables next.

corpus and years	collocations	frequency	MI
BNC 1960-1993	relaxed	5	7.56
	attitude	7	6.78
	happy	7	5.84
	days	12	5.12
	young	6	4.10
	life	7	3.55

Table 4.9: The collocates of *carefree* in the BNC, ordered according to a decreasing MI value.

corpus and years	collocations	frequency	MI
COCA 1990-2012	lighthearted[36]	6	9.85
	cheerful	5	7.12
	lifestyle	12	6.74
	abandon	7	6.67

[36] Original corpus spelling.

	casual	8	6.38
	attitude	21	6.38
	childhood	14	5.96
	happy	32	5.57
	seemingly	5	5.49
	vacation	6	5.39
	laughing	6	5.05
	youth	11	5.03
	confident	5	5.02
	innocent	5	4.96
	existence	6	4.80
	summer	19	4.50
	spirit	8	4.49
	days	41	4.32
	smile	8	4.25
	moments	5	4.20
	style	8	4.14
	relatively	6	4.05
	girl	12	3.74
	fun	5	3.27
	life	33	3.09

Table 4.10: The collocates of *carefree* in COCA, ordered according to a decreasing MI value.

In contrast with *careless*, *carefree* can be found with words describing people's positive attitudes as many of its collocates, e.g. *relaxed*, *happy*, *young*, *lighthearted*, *cheerful*, *confident* and *innocent*. The contexts of their use are also positive, as illustrated below in (15) and (16).

(15) For Marion and Ronald it was *love* at first sight. They spent all their spare time together and the *courtship* developed rapidly. Marion *adored* him and they *enjoyed* many ***happy***, **carefree** walks together.

BNC/Railway Ghosts and Phantoms/fiction/1985-1994

The extract above describes joyful beginnings of a new relationship. Apart from the collocate *happy*, it includes other evaluative expressions, such as *love*, *courtship*, *adored* and *enjoyed*, which all together create a positive context.

(16) CLIP-FROM- " LIVE! -W# ANNOUNCER-(MALE) It's " Live! with Kelly. " ELIZABETH-VARGAS-# (Voiceover) On " Live! with Kelly, " she is *famous* for her ***cheerful*** and **carefree** *good humor*. GUEST-CO-HOST-1MA# Kelly Ripa

nominated for Best Host. KELLY-RIPA-1HOST-# Oh, my god. GUEST-CO-HOST-1MA# Unbelievable.

COCA/Medical Mysteries/spoken/2012

This is an example from the spoken part of the COCA corpus. It is a part of an introduction of a television show and its main star. Again, it consists of a few positively evaluated words, such as *famous*, *cheerful*, *good* and *humour*.

Another group of collocations that seem related are *days*, *life*, *childhood*, *youth* and *moments*, which all refer to certain periods of time experienced by people (see (17)) and occasionally endured by things (see (18)). Those uses usually do not have as many clearly positive expressions, but they still convey pleasant meanings.

(17) I used to spend my own **carefree** summer **days** at a camp in Eagle River, and I can still remember the smell of the pines and the *beauty* of the sun on the lake. Thank you for triggering all those memories.

COCA/Country Living/magazine/2010

This example is an extract from a letter to an editor, in response to one of the articles in a magazine. It expresses overall gratitude for the covered story, which brought back good memories and includes an evaluative noun *beauty*.

(18) Which is why we have an enormous range of Stainshield carpets, and *knowledgeable* staff who are only too *happy* to give you advice on how to choose a carpet with a **carefree**, *long* **life**. Imagine *dreaming* in a *beautifully* carved bed of *rich* cherry wood.

BNC/Leaflet/advert/1985-1994

The above passage advertises homeware, trying to persuade possible buyers using positive terms, such as *knowledgeable*, *happy*, *dreaming*, *beautifully* and *rich*. *Carefree* seems to suggest that the purchased carpets will remain in good state for a long time.

The next semantic group is related to the one just discussed but instead of expressing time constrained periods, it concerns people's approaches towards life. It consists of collocations, such as *attitude*, *lifestyle*, *existence*, *spirit* and *style*, that all seem to express people's approach to life. Their contexts are usually not as optimistic as of some of the previous groups, in fact, they seem to express the feeling of happiness despite some of the everyday difficulties (see (19) and (20)).

(19) This process rarely runs as smoothly as I have suggested. Often, it takes months of phone calls before you have completed your' hit list', and I would suggest that whoever takes on this job should have a very **carefree** and *optimistic* **attitude**.

BNC/The Rock File/miscellaneous /1985-1994

The above quotation is a piece of advice given to aspiring musicians who are hoping to become successful. It explains the difficulty of receiving feedback and becoming noticed in the musical business. Here staying *carefree* and *optimistic* is mentioned as a trait necessary to deal with inevitable rejections.

(20) My curiosity gets the better of me, so camera in hand, I walk down to get a closer look. After repeatedly hammering out the straw to separate the seed, they sift out the chaff using flat bamboo baskets, in an endless, rhythmic cadence as old as time. They gossip and *laugh* as they work, conveying a *cheerful*, **carefree existence**, unbounded by the *stress* of contemporary life.

COCA/PSA Journal/academic /2003

This example describes experiences of a tourist visiting Burma and observing a very different culture. He watches local people doing work and enjoying it, despite it being a mundane task. He even makes a far reaching prediction that they are not affected by the pressures of life. *Carefree* seems to be used as a positive expression and is supported by *laugh* and *cheerful*.

Lastly, two more specific words, i.e. *smile* and *laughing*, describe actions expressive of states of happiness and, as such, extremely positive evaluation-wise. An example of their use is presented in (21) below.

(21) On January 19, 1991, 11 *intrepid* members of the Prevention Walking Club met at San Juan Airport, Puerto Rico, to begin a walking *vacation* they would never forget. What a *delight* to watch this group of strangers transform into an *active*, **laughing**, **carefree** group of *adventurers* afoot.

COCA/Prevention/magazine/1991

The quotation above reports on a group of tourists who travelled together and are described using many positive terms, for example, *delight*, *active* and *adventurers*.

Carefree is used among those, to reinforce the cheerfulness of the atmosphere among the participants of the trip.

As in the previous section, I also prepared a collocational network (see Methodology, §4.1.2) for *carefree*. I used the lexical items from tables 4.9 and 4.10 and searched for any repeated items among their collocates. The result is presented in figure 4.2 below.

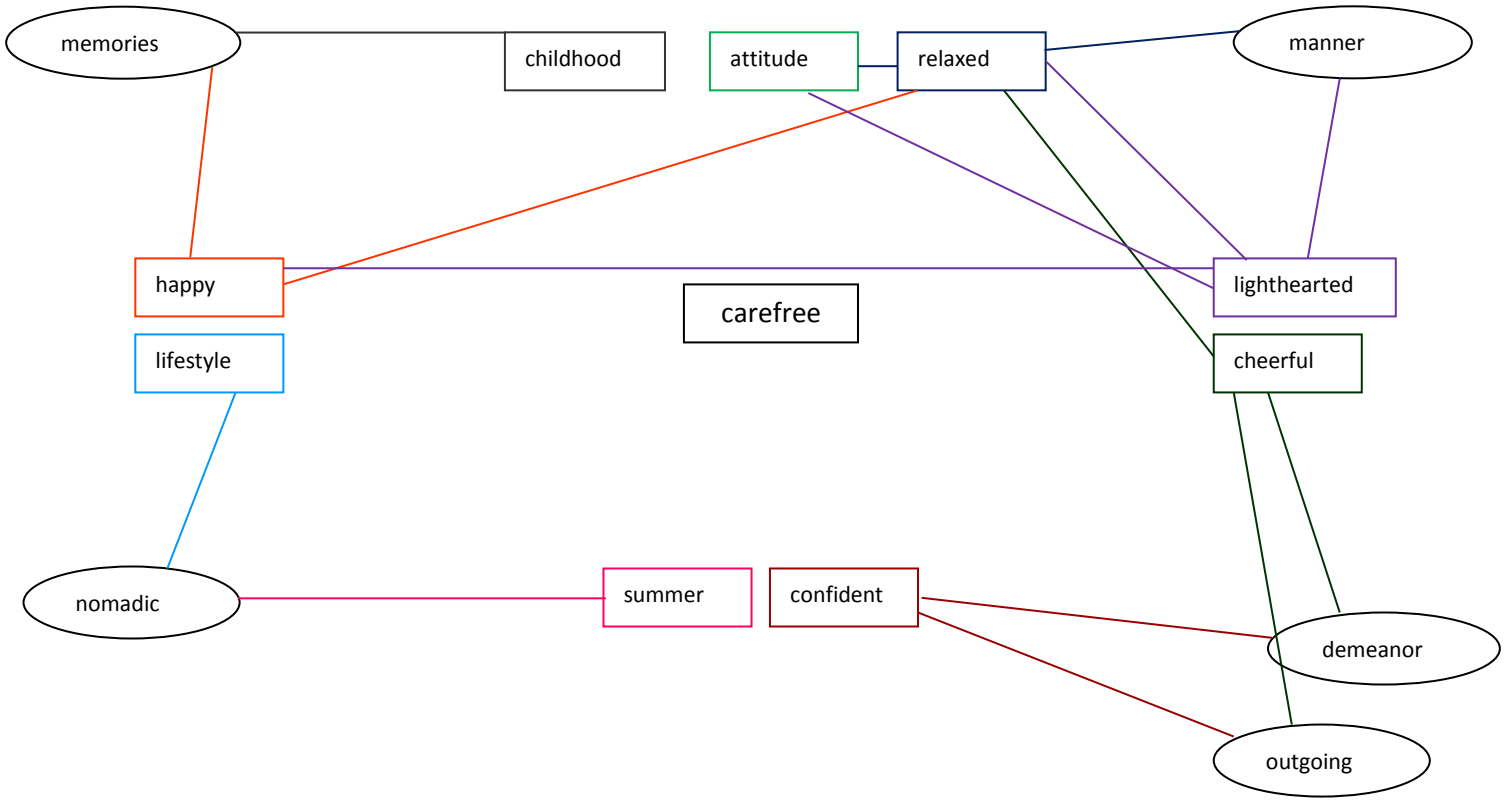

Figure 4.2: Collocational network of *carefree.*

The collocational network of *carefree* shows that its collocates are not significantly related as it was the case with *careless*. In fact, there are just a few links between both the primary and secondary collocates of *carefree*. The main associations with *carefree* were discussed above and relate to positive adjectives describing people (*relaxed*, *lighthearted*, *cheerful*, *confident*, *happy*), their approach to life (*lifestyle*, *attitude*) and particular happy periods of their lives (*childhood*, *summer*).

Finally, I will discuss the distribution of *carefree* in the particular genres of both corpora. Tables 4.11 and 4.12 present the results of the BNC and COCA corpora respectively.

corpus and years	variety	genre	frequency	per mil	percentage
BNC 1960-1993	spoken		2	0.20	1%
	written	fiction	60	3.78	36%
		magazine	16	2.20	10%
		newspaper	18	1.72	11%
		academic	17	1.03	10%
		miscellaneous	53	2.65	32%
		total	166	1.73	100%

Table 4.11: The distribution of *carefree* in different genres of the BNC.

corpus and years	variety	genre	frequency	per mil	percentage
COCA 1990-2012	spoken		96	1.00	11%
	written	fiction	283	3.13	32%
		magazine	307	3.21	35%
		newspaper	140	1.48	16%
		academic	56	0.61	6%
		total	882	1.90	100%

Table 4.12: The distribution of *carefree* in different genres of COCA.

As presented in the tables above, *carefree* is not as equally distributed among genres. There is also a difference between its use in the British and American English. The genre in which *carefree* is used the most frequently in the BNC is fiction (36% of all uses). The next frequent text types, i.e. newspaper, magazine and academic, reach only 10% of its overall uses. In COCA, fiction and magazines reach 32% and 35% respectively, followed newspapers (16%).

Investigating the uses of *carefree* in particular genres in more detail did not reveal many trends. The only clear tendency seems to be for the words describing people's positive attitudes (e.g. *lighthearted*, *cheerful* and *relaxed*) to appear in fiction (58% of all of their uses).

4.2.3 Care and ideology

As indicated in section §4.2.1 above, the main meanings expressed by *careless* and *carefree* seem different, but they are still related as the main sense of *carefree* is also a secondary one of *careless*.

Hillyer (2013) argues that "*carefree* has not entirely displaced *careless* with respect to the senses they share, […] because its shorter history and greater simplicity make it far less expressive" (Hillyer 2013:11). Additionally, *careless* remained associated with some of the shared meanings due to the fact that it used to be associated with aristocratic prestige—not having to care was a sign of holding power. He also points out that despite those past tendencies, the present-day meanings of the two terms are not ambiguous (Hillyer 2013:11-13) which is confirmed by my analyses presented in sections §4.2.2.1 and §4.2.2.2.

Nowadays, *careless* tends to be used to describe negative attributes of people and their actions, for example with regards to irresponsible driving. It was found to be discussed in academic sources as a part of 'the greaser culture', a trend developing among young people and involving hazardous car races. The studies warn against "potential harmful consequences" of such "risk-taking practices", for drivers and passengers, who willingly part-take in 'greasing', as well as random pedestrians and drivers they pass on their way (Joelsson 2014:200).

Carefree, in turn, seems to represent the ability to be free to indulge the pleasures of life which, as long as safe, is desirable with regards to both individuals and society. For example, research conducted by Brands and Schwanen (2014) discusses the importance of police safe-guarding practices in nurturing carefreeness of people enjoying their nights out (Brands and Schwanen 2014:68). Lack of anxiety and worry is also emphasised with regards to the wellbeing of the youngest members of society, as "childhood should be a carefree time of life" (Acharya et al. 2014:63).

4.2.4 Conclusions

The results indicate that the semantics of the two adjectives is different in PDE. *Careless* is used predominantly in negative contexts. Its collocations describe people's characteristics, their indifferent reactions as well as poor driving skills and neglectful disposal of dangerous materials. The collocational network of *careless* is very well developed and shows many links between its collocates. It was found to be used almost evenly in all of the genres, with a small dominance of fiction.

By contrast, the meaning associated with *carefree* is usually positive. Its collocations express people's attributes, happy periods of time and optimistic approaches to life. The collocational network of *carefree* is less expanded than the one of *careless*. It appeared most frequently in fiction, magazines and newspapers. It is not as equally distributed among genres as it was the case with its counterpart ending in *–less* but does not present any other major trends.

Some of the above mentioned differences between *careless* and *carefree* might be motivated by the fact that *careless* was coined almost a century earlier which allowed it to develop uses in more semantic domains and spread to more genres. However, there is also a crucial difference in meanings of the two terms, especially with regards to evaluation they express.

4.3 Attitudes towards having children: *childless*/*child-free*

The word *children* has been proven to be among ten words showing the greatest increase of use in English, which suggests that they are one of the top concerns of the modern society (Baker 2011b:75). This section focuses on two adjectives that can be used to describe people who do not have children: a recent formation with *child*, i.e. *child-free* (§4.3.1 and §4.3.2.2), and its more established counterpart *childless* (§4.3.1 and §4.3.2.1), attempting to differentiate between the meanings of the two and account for a possible change in the way our society views lack of children.

4.3.1 *Childless* and *child-free* in the dictionaries

The adjective *childless* dates to Middle English and has been listed in almost all of the researched dictionaries. The ones that provide a definition for it describe it as 'having no children' (The Advanced Learners Dictionary of Current English 1963:161), 'without children' (Chambers Dictionary 1993:297) or 'without offspring' (OED; *childless*, adj.). Some of the provided uses seem as neutral as the above definitions, such as *childless couples* in Collins COBUILD Advanced Learner's English Dictionary (2006:233). However, there is also one example related with not being able to have children despite wishing for them. MacMillan English Dictionary for Advanced Learners (2002:234) suggests the following:

(22) *Several fertility treatments are available for childless couples*.

Its counterpart ending in *–free* is a very recent development. It only appears in the OED, which dates its first usage to the beginning of the twentieth century, and defines it as 'designating or characteristic of a person who does not have children, especially by choice' (OED; *child-free* adj.). As presented below in (23) and (24), it can be used in a negative way, especially if the speaker/writer disagrees with that choice. (This issue will receive further attention in the ensuing sections of this chapter.)

(23) *The admiration gained now by the child-free woman tends to demoralize women, otherwise contented with their normal functions.*

OED (*child-free* adj.)/American Journal of Sociology 1913

(24) *Framing policies in terms of children, she says, is the only way to challenge the belief at the core of the 'child free' worldview—that caring for children is in no way an obligation of the childless.*

OED (*child-free* adj.)/Times Magazine 2000

The last example (24) is especially interesting as it includes both *child-free* and *childless*. *Child-free* is here used in inverted commas, emphasising the novelty of the concept and showing that it is not understood and accepted by everyone yet.

In order to further investigate the present-day use of *child-free*, I adopted Baker et al.'s (2008:283-284) method and investigated the definitions expressed by organisations which support the groups of people designated by this particular term. The explanations given by major online organisations supporting people who call themselves *child-free* are as follows.

One of the most established organisations – Childfree Network – calls itself "a group of adults who do not wish to have children of our own" and notes that "we choose to call ourselves 'child-free' rather than 'childless', because we feel the term 'childless' implies that we're missing something we want – and we aren't."[37] Another association, No Kidding! "is an international social club for adult couples and singles who have never had children"[38]. There is also a book devoted to the *child-free* choice, entitled "Enough of Us", which focuses on the environmental aspect of having no children as there are already too many people on Earth[39].

My corpus analysis of the occurrences of *child-free* revealed a number of names of networks created by and for people who do not wish to have children, such as *Childfree Network*, *Childfree by Choice* and *Childfree Association*. They were all found in COCA, in newspaper articles introducing the topic and the founders of the associations to a wider audience. The discussion about the child-free choice in mainstream media shows the significance of this concept to modern society, which will be discussed further in §4.3.3.

[37] http://www.childfree.net/, accessed 30/12/2014, original spelling.

[38] http://www.nokidding.net/, accessed 30/12/2014.

[39] http://www.enoughof.us/tag/childfree-network/, accessed 30/12/2014.

4.3.2 *Childless* and *child-free* in the corpora

4.3.2.1 *Childless* in the corpora

The results of my evaluation analysis of all 914 examples of *childless*, 215 from the BNC and 699 from COCA (repetitions and nominal uses were discarded) are presented in tables 4.13 and 4.14 below.

I evaluated the uses of *childless* as 'negative' when they were used with negative words (or in a few cases, positive ones, but in relation to having children and not being *childless*). It has been classified in this category, for example, when it was found next to adjectives such as *bored*, *depressed*, *sad*, *self-absorbing*, *stigmatized*[40], *wicked*, *unlucky*; nouns such as *death*, *disease*, *problem*, *witch*; and verbs such as *die*, *obsess*, *repel*. In contrast, the examples that consisted of tokens of *childless* in close textual proximity to words expressing positive meanings were evaluated as 'positive'; for instance, when adjectives such as *accomplished*, *dream*, *employed*, *sexy* and *well educated* were used to describe the *childless* state or people.

corpus and years	evaluation	frequency	per mil	percentage
BNC 1960-1993	positive	8	0.09	4%
	negative	149	1.56	69%
	unclear	58	0.58	27%
total		215	2.23	100%

Table 4.13: The evaluation of the uses of *childless* in the BNC, according to the positive/negative parameter.

corpus and years	evaluation	frequency	per mil	percentage
COCA 1990-2012	positive	53	0.11	7.5%
	negative	346	0.74	49.5%
	unclear	300	0.65	43%
total		699	1.5	100%

Table 4.14: The evaluation of the uses of *childless* in COCA, according to the positive/negative parameter.

[40] All of the quotations include original spelling and orthography.

The data obtained from the two corpora present a similar tendency, i.e. when *childless* is used in contexts expressing evaluation, this evaluation is usually negative. In the BNC, tokens classified as 'negative' amount to 69%. In COCA, they constitute almost half of its uses (49.5%). The majority of the remaining ones were classified as 'unclear', as they include no clearly evaluative words describing *childless*, such as the following study title quoted from COCA: *A qualitative analysis of interviews with postmenopausal women who remained childless*.

Moving on to the analysis of the collocates of *childless*, tables 4.15 and 4.16 below show the lists of lexical collocates of *childless* from the BNC and COCA respectively. The collocates from the two tables can be organised into a few semantic groups and will be discussed in more detail.

	collocate	frequency	MI
1.	couples	19	9.85
2.	unmarried	6	9.59
3.	marriages	5	8.88
4.	widow	6	8.21
5.	died	17	6.56
6.	remain	11	6.55
7.	elderly	6	6.52
8.	marriage	8	6.29
9.	married	7	5.75
10.	couple	7	5.48
11.	single	9	5.25
12.	woman	10	5.10
13.	women	16	4.98
14.	age	8	4.82

Table 4.15: The collocates of *childless* in the BNC, ordered according to a decreasing MI value.

	collocate	frequency	MI
1.	unmarried	17	9.99
2.	widowed	7	9.50
3.	couples	59	9.08
4.	divorced	11	7.44
5.	widow	6	7.08
6.	adults	24	6.62
7.	wealthy	5	5.86

8.	couple	37	5.75
9.	single	33	5.66
10.	remain	17	5.62
11.	aunt	6	5.56
12.	remained	11	5.55
13.	marriage	14	5.29
14.	sisters	5	5.29
15.	married	13	4.99
16.	employees	10	4.94
17.	choice	12	4.71
18.	women	54	4.64
19.	wife	16	4.33
20.	woman	27	4.18
21.	workers	10	4.10
22.	died	8	3.87
23.	husband	6	3.36
24.	friends	7	3.04

Table 4.16: The collocates of *childless* in COCA, ordered according to a decreasing MI value.

Some of the strongest collocations in both tables concern the description of two people who are *childless* together, i.e. *couple*(*s*), *marriage*(*s*) or *married* people. *Couple*(*s*) is frequently used in the context of people who wish to have children but cannot get pregnant, mentioning possible treatments (as in (25) below) or other options they may have (e.g. adoption or surrogate parenthood). There are few examples of *couples* choosing to remain childless, which is usually mentioned in the context of them focusing on reaching higher economic status (as in (26)). *Childless couples* and *marriages* are sometimes used in a neutral way, as descriptions of a fact (as in (27)), but still, the most frequent evaluation expressed by this group of collocations is a negative one (as in (28)).

> (25) Fertility *treatment can seem* like a *lifeline* to **childless couples** who *desperately want a baby*. Although various *treatment* options are *available*, the *success rates* to date *are poor*. Fertility *counselling can help* couples assess their *need* for *treatment*, and *help* them prepare for it. 'Give me sons or I *shall die*,' said Leah to Jacob (Genesis 30: 6), expressing the *anguish suffered* by many people on learning they *may not* be able to *have children*.
>
> BNC/Professional Nurse/miscellaneous/1985-1993

This extract contains many evaluative expressions. Some of them represent positive evaluation of having children, such as *want* as well as treatments that are helpful in achieving that state, such as *lifeline*, *available*, *help*, and even *treatment* itself. There is also some negative evaluation with regards to the lack of children, such as *poor*, *die* and *anguish suffered*. These attitudes towards having children seem to be supported by other linguistic features that point at the use of Hunston and Thompson's (2000) certainty and importance parameters in this passage. There are three examples of the certainty parameter—the modal auxiliary *can* is used twice to mark the possibility of improving the unfortunate state. In addition, *may not* refers to not being able to conceive, the possibility of which seems to cause some people to think they *shall* not have a life. There are also a couple of signs of importance, *desperately* and *need*, which also reveal the value of children to the writer and reader.

> (26) The intentionally **childless married** woman was *likely to* be *well educated*, employed in a *high status* occupation, married to a husband in a *professional* or *managerial* job. Childless men, especially those with a *broken* marriage, were more *likely to* be *ambitious*, *highly educated professionals*.
>
> BNC/The British Population/academic/1985-1994

The quotation above describes the results of a survey showing that people who choose to stay childless are generally *well* or *highly educated*, *ambitious* and employed at *high status* jobs. Apart from *broken*, all of the words in italics express positive evaluation– *childless people* are presented to be reaching a higher status in life. Moreover, in accordance with what Hunston and Thompson (2000:24) suggest, since this quotation is a part of an academic report discussing research results, it includes an expression that modulates the certainty of what is being said, i.e. *likely to*, used twice.

> (27) ACNielsen took an *in-depth* look at the HMR consumer in 1998. The results indicated that the average HMR household had an income greater than $50,000, three or more members, and an employed female head of household younger than 44. The most loyal users of HMR were young singles, **childless couples**, and new families.

COCA/Journal of Environmental Health/academic/2005

This passage is also an example taken from an academic source, discussing findings on the contribution of particular groups of society to the HMR. It does not seem to express any clear evaluation, but mentions *childless* people among singles and families without presenting any differentiations between the three.

(28) Nineteen years passed, and one spring day I discovered that Claire had returned from France *alone*. Her husband had *died*. It had been a **childless marriage**, and *not* entirely a *pleasant* one if gossip was to be believed. *Bitter*, in fact.

COCA/Cold Mountain/fiction/1997

The last example from this group focuses on negative evaluation, expressed by the majority of uses of *childless* with *couple*(*s*) or *marriage*(*s*). It presents a character named Claire, who is *alone* after her spouse has *died* and describes their past marriage as *not pleasant* and *bitter*, both of which are used together with *childless*, which suggests that the writer meant it to carry a similarly negative meaning.

Another strong collocate group describes people who are *unmarried*, *single* or *divorced*. These seem to be used with *childless* mainly to specify someone's status (as exemplified in (29)). In the case of *single*, this status might appear as a requirement for a particular position. However, many of the collocations from this group are used in contexts suggesting negative evaluation, expressing that the people described with these terms feel distressed and unhappy about it (see (30) below).

(29) The investigator she'd paid dearly for bits of information said Dr. Greenberg was **divorced**, **childless**, and working as a researcher at the University of North Carolina teaching hospital. # The tabs on a stack of file folders confirmed her life as a scientist. Retrovirology. Immunology. Serology. Pathology. Belfast.

COCA/Shiver of Fear/fiction/2011

The above quotation does not present any clear evaluation of the fact that Dr. Greenberg is childless. It is just a part of the narrator's description that also includes work information, none of which seem to be either positive or negative.

(30) For the older 40-plus age groups, often *high-flying* career woman who have remained **childless** and perhaps **unmarried**, the principal sources of *despair* and *anxiety* are very often an *inability to accept* that they are nearing the end of their reproductive years, coupled with the *fear* of growing old and being *lonely*.

BNC/Harpers&Queen/magazine/1985-1994

This extract consists of both positive and negative evaluations of the *childless* state, out of which the negative one is more prominent. It mentions the childless and unmarried women reaching *high-flying* careers, but feeling *lonely*, experiencing *anxiety* and *despair* as they age and struggle to accept that they do not have families.

The next semantic group consists of collocates such as *widowed*, *widow*, *died*, *elderly* and *age*. Most of them are used in the context of death which implies a negative evaluation but let us examine their corpus occurrences in more detail. The majority of their uses include examples implying the lack of successors and the descriptions of people who are presented as lonely, ill and/or poor (see (31) below). However, especially *age*, is frequently used without any clear evaluation, as a part of someone's description (as in (32)).

(31) One has a brief glimpse here of the fate of the **elderly** who were **childless** or out of touch with their children. Their *poverty* and *loneliness* were part of an *isolation* from ordinary family life which left them at the *margins* even of childhood memory.

BNC/I Don't Feel Old/miscellaneous/1985-1994

The passage above includes a strongly negative description of elderly lives of people who decided not to have children (or who are no longer in contact with them). They are portrayed as living in *isolation*, suffering from *poverty* and *loneliness*, pushed to the *margins* of their family's memory.

(32) *Perhaps* 5 percent of married couples *choose* to be childless. There has been much speculation whether this proportion *is likely to* grow substantially in industrial societies. The trend in successive cohorts *suggests* it is. The proportion of women *still* **childless** by **age** 25–9 doubled from 20 per cent in 1961 to 40 per cent in 1981. In Britain 34 per cent of women of that age were

childless in 1964, and 47 per cent in 1984; levels not seen since early this century. Many of these women *may still* start families in their late 20s or 30s.

BNC/ The British Population /academic/1985-1994

This example is an extract from an official report and it does not express much of the positive/negative evaluation. However, the double use of *still* suggests that women who continue to be childless in certain age groups are deviating from the norm and could be perceived negatively. Moreover, as example (26) above, this quotation forms part of an academic report discussing research results and includes some expressions that modulate the certainty of what is being said, such as *perhaps*, *is likely to*, *suggests*, *may*.

It can also be observed from tables 4.15 and 4.16 that many collocates of *childless* refer to women, for example, *sisters*, *aunt*, *wife*, *women* and *woman*. The results seem to show that some of these collocations are used without expressing straightforward prosodies but just report a fact, especially in the case of *sisters* and *aunts* (see example (33)). However, many of their uses seem to suggest a negative evaluation, either with regards to the ways in which the society views childless women and/or how they feel about it themselves (see (34)). Lastly, a few examples mention that remaining *childless* could also be a choice (see (35)).

(33) " My mother was 40 when I was born, " he says. " She had an older sister and a slightly younger sister. Both of the **sisters** were **childless**, and I was an only child, so I spent a lot of time with those three women"

COCA/Atlanta Journal Constitution/newspaper/2003

The quotation above does not seem to include clear evaluations of the fact that the sisters of this person's mother were childless. It is simply a part of the description of his/her childhood memory.

(34) This bulletin of *despair* is posted everywhere -- at the newsstand, on the TV set, at the movies, in advertisements and doctors' offices and academic journals. Professional women are *suffering* " *burnout* " and *succumbing* to an " *infertility epidemic*. " Single women are *grieving* from a " man *shortage*. " The New York Times reports: **Childless women** are " *depressed and confused* " and their ranks are swelling.

COCA/Mother Jones/magazine/1992

This extract reports on information presented in various media discussing professional, single, childless women. It quotes negative expressions used to describe them, saying that they are *grieving* due to the *shortage* of partners, feeling *depressed* and *confused*. It implies that being single and childless is extremely unfortunate for a woman and that focusing on a career as a young woman could result in later professional *burnout* and *infertility*. The views expressed above seem like a mixture of what these women could feel and how the society perceives them to feel.

> (35) At the other end of the continuum are **women** who are **childless** -- often by *choice*. Here personal *success* tends to be measured by *achievements* in business, political, intellectual, and artistic life rather than in the traditional realms of motherhood and childrearing.
>
> COCA/Public Interest/academic/2005

The last example of this group illustrates a use where remaining childless is admitted and accepted as a *choice*. It seems to be presented as an alternative to the traditional, family oriented life style. It uses positively evaluated expressions such as *success* and *achievements* to describe areas of life that voluntarily childless people choose to focus on.

A pair of words sharing another meaning, i.e. *employees* and *workers*, usually refer to the consequences that being *childless* brings in terms of job expectation. It mentions the conflicts at a work place caused by the fact that the childless people tend to be required to work more than their colleagues who have children and/or the need to address these problems (see (36) below).

> (36) Still, recognition by companies of the *resentmen*t **childless workers** might feel has been slow in coming. That's because unearthing it has required confidential employee surveys. Few childless employees *complain* aloud about missing aerobic classes, theater -- even volunteer projects -- because it rings *heartless* and *shallow* next to the rearing of the nation's future.
>
> COCA/USA Today/newspaper/1997

The evaluation expressed in this passage is clearly negative. It describes both what the childless employees feel, i.e. *resentment* giving them reasons to *complain*, and

how they think they would be perceived, if they spoke about them out loud, i.e. *heartless* and *shallow*.

The next group of collocates of *childless*, such as *wealthy*, *choice* and *friends*, seems to express positive meanings. Most examples of *wealthy* seem to be used in the positive contexts of people having higher status (see (37) below). The contexts in which *choice* is used are even more diverse; they present descriptions of people who are childless by choice (as in (38)) as well as organisations and books that were created for them, but also mention the on-going problem of lack of acceptance towards their decisions (as in (39)). Similarly, *childless friends* are described as people who are free, so can be good company or provide help for the parents (as in (40) below), but they can also be disapproving of others' choice to have a baby (as in (41)).

(37) " Thus every other woman tries to lead her life with as much *virtue* and *glory* in order to become *blessed* on earth and in *heaven*. " Lucrezia Pico della Mirandola -- who, like Matilda, was a countess, married, widowed, **childless**, and **wealthy** -- may well illustrate the translation of such aims into actions.

COCA/Art Bulletin/academic/1999

Wealthy tends to have positive associations and it usually remains so when it is used with *childless*. As presented above, *childless* and *wealthy* are used to describe a woman who discusses her virtues.

(38) " We *love* food, wine, travel, music, " says Dina. **Childless** by **choice**, the Bomgardners have been together for 10 years, married for eight, and have created a life filled with art and *adventure*.

COCA/Psychoogy Today/magazine/2004

This passage depicts a couple that chose to be childless and is happy to focus on and enjoy other spheres of their life, which they list as things they *love*. It also suggests that it is not a temporary decision as they have been embracing such a life style for many years.

(39) Those who are **childless** by **choice** are frequently *forced to* deal with *accusations* that they are *selfish* or somehow *unnatural* and *patronizing* comments from people who are sure that " you'll change your mind someday. "

COCA/San Francisco Chronicles/news/1997

The above quotation presents a negative attitude that is sometimes expressed towards childless people. It contains a few expressions with clear negative evaluation, such as *selfish* which is cited as an *accusation* the childless tend to hear, but also *unnatural* and *patronizing* used to describe the remarks that other people make towards them.

> (40) Solution #2 **Childless friends** can *help out*, too. Your girl who showers your kids with *fly* gear every chance she gets is, in her own way, doing just that. Be *real* with her. Explain that while you *appreciate* the clothes, what you need most is a *gift* of time. She'll probably be *glad* to hang out with the kids for a few hours.

COCA/Essence/magazine/2000

This extract seems to be a piece of advice for parents who find it difficult to deal with their everyday duties. It suggests that their childless friends could provide occasional yet valuable support. It includes many positively evaluated words, such as *help out*, *fly*, *appreciate*, *real*, *gift*.

> (41) But now it was us with a baby on the way, the only ones among our **childless friends**. They thought we were *crazy*. Very *smart* people who'd given only *good* advice for years were concerned. There wasn't enough room in our West Village apartment. Who'd take care of the baby when we were working? Shouldn't you have socked around a hundred grand into the bank before a first child?

COCA/Parenting/magazine/2002

The above example presents a more disapproving view people could have with regards to their friends who decide to start a family. The only positive expressions, i.e. *good* and *smart* are used ironically as the rest of the passage indicates that the future parents are not prepared to have a baby. In fact, they are negatively characterised as *crazy*, which is also the main message of this passage.

The remaining collocations are *adults*, *remain* and *husband*. All of these seem to be neutral but some reveal hidden discourses when analysed in more detail. *Childless adults* seems to be mainly used in the contexts of people who live in poverty and need help from the state assistance programmes (as in (42)). Another

collocate, *remain*, is usually found in contexts describing people's reasons for not having children, for example, due to costs it involves, career or education plans, freedom or infertility (see (43) and (44) respectively). *Husband* turns out to be used when simply stating a fact (as in (45)).

(42) Those in *favor* of trimming or eliminating programs argue that such steps will do the *poor* a *favor* by providing a new impetus to seek work or education. Others say the cuts will just compound the *misery* of the *powerless*. # Welfare programs for **childless adults** are typically known as " general assistance. "

COCA/New York Times/newspaper/1992

This quotation uses negative phrases in the context of childless adults, such as *the poor*, *the powerless* and *misery* while discussing their situation and the assistance programmes they are mentioned to use.

(43) While most of those who were delaying children cited economic reasons first (70 per cent), only 41 per cent of those who intended to **remain childless** mentioned the costs. The most important consideration was *freedom* of action; an *understandable* response, as childbearing *may* be regarded as equivalent to a fifteen-year sentence of partial house *arrest*, without remission for *good* behaviour.

BNC/The British Population/ 1985-1994

The above passage focuses on the fact that some people consider losing freedom as the biggest disadvantage of having children and a reason to remain childless. It even compares starting a family to a long house *arrest* sentence, which is clearly negative.

(44) There was only one *regret* that dogged this *happy* pair: so far, they had **remained childless**. *Rightly* or *wrongly*, she *blamed* their infertility on him and sometimes sank to thoughts of other men, *Real* Men Who Could Give A Woman A Baby.

COCA/Commentary/fiction/1993

This example presents another reason why people remain childless, i.e. infertility. It describes a situation of a couple who cannot have children, focusing on the woman's feelings. It uses negative expressions, such as *regret* and *blamed* when discussing the fact of being unable to have children. It also mentions some positive ones, such

as *happy*, here despite the lack of children, and *real* when describing men who can provide a woman with a baby.

(45) " Mother's feeling *better* now, " wrote Edna. " She's met a distant relative of Chaya's **husband**, a **childless** widower, and they go out together. They go to listen to lectures and to see plays in Yiddish, when there are any.

COCA/Funeral at Noon/academic/1996

The above quotation does not seem to be any clear evaluation in relation to the childless man, it is just a part of the description of his status, as written by the daughter of a woman he had started dating.

The collocational network of *childless* was prepared using the collocates from tables 4.15 and 4.16 above. The result is presented in figure 4.3 below.

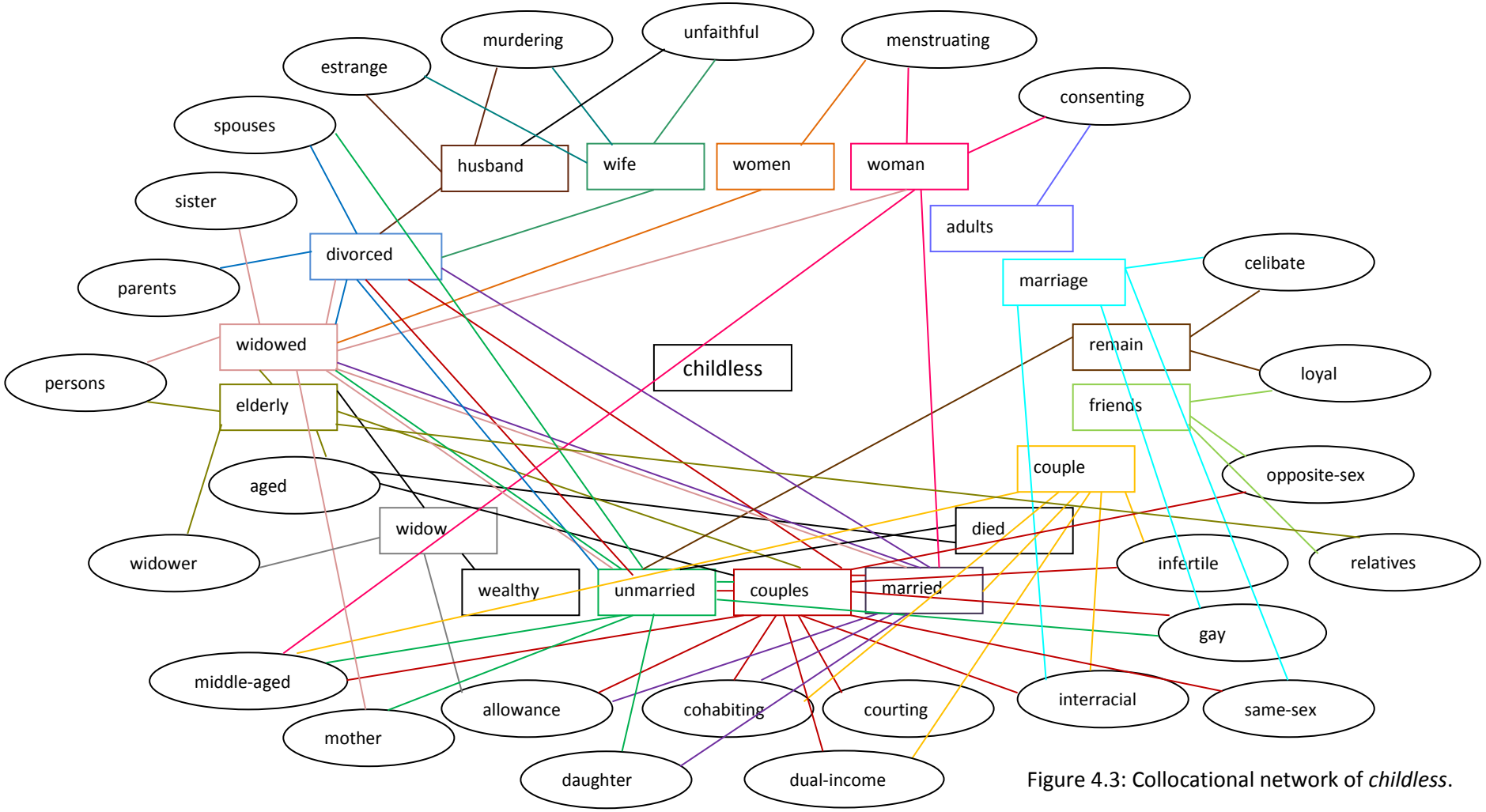

Figure 4.3: Collocational network of *childless*.

The network shows that many of the collocates of *childless* are linked with each other, both on a primary and secondary level. One of the sets consists of the words *divorced*, *unmarried* and *couples*, which all are each other's collocates, *divorced* and *unmarried* also sharing *middle-aged* and *happily*. Another set, words collocating with *widowed*, i.e. *woman*, *women*, *married* and *elderly*, suggests it is usually females who are alone in old age, even if they got married when they were young. *Elderly* collocates with other primary collocates of *childless*, such as *widowed*, *widow*, *couples* as well as secondary ones, such as *person* (shared with *widowed* and *unmarried*) and *aged* (shared with *couples* and *died*). Most of these associations suggest a negative prosody of *elderly*, which was also investigated by Mautner (2007) (for more information, see §4.1.1 above) and briefly by Bauer (2006:116-118). Negative prosody seems also present in the collocates of childless *husband* and *wife*, which are both associated with *divorced* and share *estranged*, *murdering* and *unfaithful*.

Finally, I will discuss the text types in which the occurrences of *childless* are used in both the BNC and COCA. Table 4.17 presents the genres in which *childless* is used in the BNC, table 4.18 shows genres it is used in COCA.

corpus and years	variety	genre	frequency	per mil	percentage
BNC 1960-1993	spoken		3	0.30	1%
	written	fiction	40	2.51	19%
		magazine	11	1.51	5%
		newspaper	23	2.20	11%
		academic	52	3.39	24%
		miscellaneous	86	4.71	40%
		total	215	2.23	100%

Table 4.17: The distribution of *childless* in different genres of the BNC.

corpus and years	variety	genre	frequency	per mil	percentage
COCA 1990-2012	spoken		39	0.41	6%
	written	fiction	207	2.29	29%
		magazine	175	1.83	25%
		newspaper	181	1.98	26%
		academic	97	1.07	14%
		total	699	1.5	100%

Table 4.18: The distribution of *childless* in different genres of COCA.

The tables above suggest that *childless* is found especially frequently in academic, and fiction genres in the BNC. In COCA, apart from those genres, it also seems to have spread to magazines and newspapers. The increasing appearance of *childless* in newspaper and magazine genres suggests the beginning of a social debate on that topic.

Further examination of the patterns of use of particular collocates of *childless* discussed above revealed some trends. The words that describe women (e.g. *woman*, *women*, *wife*, *aunt* and *sisters*) appear the most frequently in newspapers and magazines, such as *The Washington Post* and *Harper's Bazaar* (38% of their uses) and academic texts (especially *woman* and *women*) such as *The British Population* (32% of all of their uses). The magazines and newspapers are also the leading genres (59% of all of their uses) in which *couple*(*s*), *marriage*(*s*) and *married* are used, especially in the articles providing relationship advice (e.g. *Men's Health* and *Psychology Today*) or discussing changes in modern lifestyles (e.g. *Guardian* and *USA Today*).

4.3.2.2 *Child-free* in the corpora

The previous subsection was dedicated to the adjective *childless*. In this one, I will discuss the results of a similar analysis of *child-free* – a more recent formation used to describe people who, according to the dictionaries (see §4.3.1), choose to lead their lives without children.

There were 5 occurrences of *child-free* in the BNC and 40 in COCA, 45 in total (repetitions and uses of the adjective in names of organisations were discarded). The results of their evaluation analyses are presented in tables 4.19 and 4.20 below.

The evaluation expressed in the uses of *child-free* was found to be mainly positive or unclear. I classified the occurrences as 'positive' when they expressed a positively evaluated state of being *child-free*, for the time being, or even in a particular place. Some of these examples included expressions such as *relaxed*, *interesting*, *holiday*, *elegant*, *selfless* and *peaceful*. There were also a few negatively evaluated uses which included expressions such as *narcissism* and *gag*.

corpus and years	evaluation	frequency	per mil	percentage
BNC 1960-1993	positive	4	0.04	80%
	negative	-	-	-
	unclear	1	0.01	20%
total		5	0.05	100%

Table 4.19: The evaluation of the uses of *child-free* in the BNC, according to the positive/negative parameter.

corpus and years	evaluation	frequency	per mil	percentage
COCA 1990-2012	positive	18	0.04	45%
	negative	4	0.01	10%
	unclear	18	0.04	45%
Total		40	0.09	100%

Table 4.20: The evaluation of the uses of *child-free* in COCA, according to the positive/negative parameter.

There were only a few examples of *child-free* in the BNC, the majority of which expressed a positive evaluation of the *child-free* state, as shown in table 4.21. In COCA, as presented in table 4.22, the results are divided between the positive and unclear evaluation.

The tables below present the lists of lexical items used with *child-free* (in all spellings, for it was searched as 'child*free'[41]) in the BNC and COCA. They were generated as collocates, even though due to the low frequency of *child-free* I searched for items used with it only twice. Since the frequency of most of them is lower than 5[42], they will be interpreted as a general indication of the words with which it can be used.

	lexical items used with *child-free*	frequency	MI
1.	holiday	2	9.49
2.	final	2	8.47

Table 4.21: The lexical items used with *child-free* in the BNC, ordered according to a decreasing MI value.

[41] The asterisk enables the search for *child free*, *child-free* and *childfree* at the same time.

[42] The only item whose frequency is 5, i.e. *network*, is a part of an organisation's name (*Child-free Network*) which, as a proper noun, cannot be treated as a rightful collocate either.

	lexical items used with *child-free*	frequency	MI
1.	museums	2	8.86
2.	defending	2	8.74
3.	lifestyle	2	8.33
4.	network	5	7.63
5.	remain	4	7.29
6.	organizations	2	6.61
7.	choice	3	6.47
8.	association	3	6.47
9.	friends	2	4.99
10.	hours	2	4.90
11.	enough	2	4.10

Table 4.22: The lexical items used with *child-free* in COCA, ordered according to a decreasing MI value.

The first words to discuss in more detail are *choices* and *lifestyle* which are both related to the fact that *child-free* characterises people who decide not to have children. Those expressions tend to be used in positive contexts (as in (46) below).

> (46) I was *impressed* by two of Sam McManis' articles -- the long piece about Jay Jensen, the autistic young man, and " *Defending* the **child-free lifestyle** " [...] The article on being " child-free " *impressed* me as *exceptionally fair* and *nonjudgmental* -- something I have not seen very often regarding this issue, even in the " *objective* " media. My husband and I are child-free, and have spent the past 20-some years alternately *perplexed*, *annoyed* and *amused* by others' reactions to our *choice*. We are people who *enjoy* kids but are *happy* enough with our nieces, nephews and assorted neighbor kids.
>
> COCA/ San Francisco Chronicle/newspaper/2003

The extract above includes many evaluative expressions. The reader is *impressed* by the article discussing the child-free choice and calls it *exceptionally fair* and *nonjudgmental*. There also are positive expressions used in the context of the commentator and her husband's feelings towards other people's children, as they *enjoy* their company and feel *happy* about them. The only negative evaluation she provides is related to her feelings caused by people who do not understand the *child-free* choice, such as *perplexed* and *annoyed*.

Child-free seems to also be used to characterise specific places where children are not allowed (such as *museums*) as well as particular activities or periods of time without them (such as *holiday*, *hours*). Both of these seem to be used in positive contexts, both for people who decided to not have them at all and parents, as exemplified in (47).

(47) The older generation of childless women, raised to believe they should be housewives and mothers, still *suffe*r from a sense of *guilt* and will remain quiet, says Cain. But the newer generation refuses to let society tell them who they should be and will be a *strong* voice in the coming years. # So expect a greater push toward **child-free** afternoons at **museums** or child-free nights at restaurants. Already, some restaurants are *wrestling* with the issue. # At Atlanta's Villa Christina, the third Friday of each month is Date Night: Parents get a candlelit dinner while kids are upstairs with child-care *professionals*. Those without children don't know the difference. " Our restaurant is a little more *quiet*, a little more *romantic*.

COCA/Christian Science Monitor/newspaper/2004

This quotation above explains that the times are changing and so is the attitude towards people's choice to remain *child-free*. It also points out that there is a growing demand for places to introduce times or days when they would be only open to adults. Such solutions are described using positively evaluated words, for example, *quiet* and *romantic*, as well as *professionals*, with regards to people who look after children in the meantime. The negative expressions, *suffer* and *guilt*, are used in the context of the older generation that was not ready for such changes. Additionally, a negative *wrestling* and positive *strong* emphasise the importance of this issue.

Another group of words from the tables forming a semantic cluster are *association*, *network* and *organisations*, which highlight the fact that child-free people are still a minority and need support from other like-minded individuals (see (48) below).

(48) Clearly, motherhood can be a *divisive* issue. And some childless women are as *troubled* as their child-carrying counterparts. There are now many Web sites, coalitions, and blogs aimed at this demographic: No Kidding!, Kidding

Aside, the World **Childfree Association**, and Childfree by Choice, to name a few. The proliferation of such groups has likely been born out of a needling sense of *injustice*, an *insidious* undercurrent in society that leaves many childless women feeling somehow *diminished*.

COCA/Harpers Bazaar/magazine/2008

As expressed in this example, choosing a child-free lifestyle is still a new concept, and many of those who decide to live by it feel they are treated with *injustice* and that their needs are *diminished* by the rest of society. This extract includes some negatively evaluated vocabulary; however, it is not aimed at the child-free, rather expressing their worries. As a result, this use was evaluated as 'unclear'.

As in previous sections, I attempted to create a collocational network for *child-free*, using all of the words from tables 4.21 and 4.22 and searching for shared collocates. None of them were found to have any primary or secondary links though.

The genres in which *child-free* is used in the BNC and COCA corpora are presented in tables 4.23 and 4.24 below respectively.

corpus and years	variety	genre	frequency	per mil	percentage
BNC 1985-1993	spoken	spoken	-	-	-
	written	fiction	-	-	-
		magazine	2	0.02	40%
		newspaper	1	0.01	20%
		academic	1	0.01	20%
		miscellaneous	1	0.01	20%
		total	5	0.05	100%

Table 4.23: The distribution of *child-free* in different genres of the BNC.

corpus and years	variety	genre	frequency	per mil	percentage
COCA 1990-1996	spoken		2	0.02	5%
	written	fiction	-	-	-
		magazine	20	0.21	50%
		newspaper	18	0.19	45%
		academic	-	-	-
		total	40	0.08	100%

Table 4.24: The distribution of *child-free* in different genres of COCA.

Table 4.23 suggests that even though there were only a few occurrences of *child-free* in the BNC, their use was not limited to a single genre. It appeared in newspapers, academic genres and, most frequently, in magazines. In COCA, *child-free* is used almost exclusively in magazines and newspapers, with few occurrences in spoken sources. However, even though it seems that it is not a wide-spread expression, the choice of genres suggests that it is a topic of debate in the PDE.

A more detailed inspection of magazines and newspapers in which *child-free* is used in COCA revealed that it is noticeably more frequent in particular titles, for example, *Redbook* and *San Francisco Chronicles*. The associations and networks supporting child-free people were mentioned, for example, in *Harper's Bazaar* and *USA Today*. It was also found in *Mother Earth* magazine, which discusses the environmental aspect of the decision to remain child-free.

4.3.3 Children and ideology

This section will discuss possible changes in how society views people who do not have children, as it might be related to the development of *child-free*.

As reported by Times magazine, the amount of women in their 40s who have never given birth almost doubled in 2010, as compared to figures from 1976 (Sandler and Witteman 2013:44). According to previous scholarship, (for example Paul 2001, Thornton and Young-DeMarco 2001 and Clausen 2002) the main reasons for such change are as discussed below.

First, the past centuries have brought a shift in attention from families to individuals. Our modern way of life is characterised by equality and freedom of choice, influencing all aspects of life, including family (Thornton and Young-DeMarco 2001:1010). Some people admit that they simply do not feel the need to raise offspring. They like having their freedom, flexibility to travel, time for their partners and want to avoid the difficulties, both physical and financial, associated with pregnancy and children.

Second, the revolution in women's rights enabled them to not only vote but for their voice to be heard on many other topics, beginning the reformation of the traditional gender roles (Thornton and Young-DeMarco 2001:1010). Women are nowadays able to pursue various careers, which was not the case in the past. Even

though some countries and companies are supportive of their female employees by offering paid maternity leaves, it still is an issue to both work places and potential mothers. At the same time, the development and availability of reliable birth control since the second half of the twentieth century has provided them with more power over family planning (Clausen 2002:112-113 and Thornton and Young-DeMarco 2001:1011).

Third, some of the couples who decide to lead their lives without children do so due to the "warning about overpopulation and environmental degradation" (Clausen 2002:113). They believe that there are already too many people on Earth and that we should be mindful of using up its resources and the carbon footprint we produce.

All of the above mentioned ideological struggles are influencing more and more people to delay or avoid having children. The original word used to describe people who do not have children—*childless*—does not encompass the decision aspect of such state. In fact, it "implies a lack or a loss" (Paul 2001:47) which is not what this group of people experiences at all. It has been noticed in the corpora that *childless* is occasionally accompanied by the adjective *voluntarily* to express the intended meaning. However, more frequently, it is replaced by *child-free* which "connotes emancipation from the time, money, energy and responsibility that parenting requires" (Paul 2001:47). It seems that the coinage of *child-free*, dated 1913 by the OED (*child-free*, adj.), was when this lifestyle choice started becoming recognised.

As it is frequently emphasised by child-free people themselves, it is not a decision motivated by hatred towards children. They simply "contend that not having children can be active, positive and fulfilling choice" (White 2010:51). Even though child-free individuals and couples have gained more acceptance in recent decades, "they are either over-looked or looked down upon by the surrounding child-oriented society" (Paul 2001:46).

Although rare, the voices disapproving of their choice tend to criticise child-free people as immature, selfish, thoughtless and unwilling to give up their self-indulgent lifestyles (White 2010:52-58). Such lack of social approval of the child-free choice led to creation of websites and networks such as, for example, "No Kidding",

"Free at Last" and "Childfree Families" (Clausen 2002:117 and Paul 2001:46) providing electronic support to people who feel that they do not need children to be happy.

The fact that a new term was coined and is increasingly used suggests a change in the way people view not having children. Despite some scepticism about it from the more traditional part of society, it is nowadays increasingly more acceptable to lead a child-free life, if one prefers to do so. The word *childless* did not express that aspect of choice, as it is mainly used to describe people who cannot but would like to have children. Since that is no longer always the case in modern society, *child-free* was coined to name the new and growing group of people who feel happy about their decision and would like it to be respected by others. In other words, *childless* encapsulates a dominant discourse of compulsory reproduction and childrearing. *Child-free* represents a developing discourse of freedom of choice with regards to family size which no longer has to include children.

4.3.4 Conclusions

In the present section I have attempted to examine the differences between the words *childless* and *childfree*. I began by reviewing their dictionary entries and the information available on the *child-free* support websites. The main part of my analysis consisted of the examination of their collocations and evaluation of the meanings associated with them in their corpus uses. I also compared the genres in which they appear and briefly discussed the development of *child-free* taking into account changes in the perception of family planning.

As I demonstrated, the two words differ in their meaning specification. *Childless* is used to describe people who cannot have children for medical reasons, or have no children and due to, for example, age or a lack of a spouse, are believed to remain that way. It collocates with words that carry negative meanings and is usually used in negative contexts of inability, old age, loneliness and death. Very rarely is it used to refer to people who themselves decided to remain childless. *Child-free*, on the other hand, is a recent combination coined to express precisely that some people decide to be free from children, either for life or a shorter time, or even in a particular place, without any intended negative evaluation of that fact. It is

frequently used in more positive contexts of choice, freedom, fulfilment and peacefulness. If there is any negative attitude expressed in the occurrences of *child-free,* it is done so by people who do not approve of such a choice.

The formation of *child-free* suggests a significant turn in the way that people who decide to live their lives without children would like to be perceived. They are proud and happy about their choices and they do not want to be negatively judged for them by the society. The genres in which it is primarily used, i.e. magazines and newspapers, suggest that it is becoming an openly discussed topic.

However, since it concerns a change in the attitudes towards one of the most traditional issues, the family, it is bound to receive some criticism. The negative comments towards people who decide to remain *child-free* include accusations that their choice is selfish and that they are unaware of how much they are missing by deciding not to have children.

4.4 Effortless and free from pain: *painless/pain-free*

The adjectives *painless* and *pain-free* seem to be sharing some of their senses. This section discusses their meanings as defined by the dictionaries (§4.4.1) as well as their uses in the BNC and COCA corpora (§4.4.2.1 for *painless* and §4.4.2.2 for *pain-free*). I will also discuss the pair with regards to ideology struggles in §4.4.3. In the final section (§4.44), I will summarise my findings.

4.4.1 *Painless* and *pain-free* in the dictionaries

Painless appeared in 11 out of 15 dictionaries, although only 8 of them provided definitions of the term. The OED, which is the most comprehensive and historically complete, differentiates between its three senses: 'free from pain; not experiencing pain', 'causing no pain; not accompanied by pain' and 'involving no awkwardness, difficulty, or inconvenience; easy, straightforward' (OED; *painless*, adj. senses 49, 50 and 51), the uses of which are presented below:

(49) *I saw that a change of heart was more important than just hoping for a painless stomach.*

OED (*painless*, adj. sense 1)/Christian Science Monitor 1985

(50) *The prisoner's neck was broken; death had been quick and painless*.

OED (*painless*, adj. sense 2)/Border 1989

(51) *The consultancy group set up an internal cybercafé to give staff a painless introduction to the Internet*.

OED (*painless*, adj. sense 3)/Computer Weekly 4/2 1996

The two first senses were originally the most prevailing, as they are confirmed by the Collins Dictionary of the English Language and the definitions it provides, i.e. 'not causing pain or distress' and 'not affected by pain' (Collins Dictionary of the English Language 1980:1054). Since both of them concern a physical aspect of pain, they will be considered as one related meaning.

The most recent meaning of *painless*, listed by the OED as third, is a case of metaphorical transfer where 'pain' relates to effort or difficulty. McMillanEnglish Dictionary for Advanced Learners (2002:1022) seems to simplify the concept and

mentions only the two: 'not causing any physical pain', and 'less difficult or unpleasant than you expect' (see (52) and (53) below).

(52) *A quick and relatively painless blood test*.

(53) *The long drive proved to be pretty painless*.

MacMillan English Dictionary for Advanced Learners

(2002:1022; *painless* adj., sense 2)

This section will only differentiate between the two main aspects of meaning of *painless*, i.e. the one concerned with physical pain and the other relating to lack of inconvenience.

Pain-free is a less developed formation. Although its first usage is dated for 1629, it is only listed by the OED and defined as 'free from pain' (OED, *pain*, n.; compounds: *pain-free*).

(54) *After leaning better eating habits and making other lifestyle changes, they were walking four or five miles pain-free*.

OED (*pain*, n.; compounds: *pain-free*)/Psychology Today 32/2 1989

It should be noted that the meaning of *pain-free* as defined and exemplified above seems to be synonymous with the first meaning of *painless*. This relation will be examined in the following sections of this chapter.

4.4.2 *Painless* and *pain-free* in the corpora

4.4.2.1 *Painless* in the corpora

There are 122 occurrences of *painless* in the BNC and 891 in COCA. However, 10 of the uses in the latter corpus were deleted, 9 for belonging to a song title *Suicide Is Painless* and 1 due to functioning as a person's nickname, resulting in a total of 881 uses to analyse. The results of my evaluation analyses of all of the uses of *painless* are presented in tables 4.25 and 4.26 below.

The occurrences of *painless* that I classified as 'positive' were used with meanings such as 'involving no pain' or 'effortless' and appeared with expressions such as *comfortable*, *brilliant* and *easy*. The occurrences that I evaluated as 'negative' referred to the topic of death and were used with words such as *die* and

killing. The uses were classified as 'unclear' if there was no positive or negative vocabulary used with *painless* to provide a clear evaluation. For example, corpus data include many occurrences of *painless* describing symptoms of diseases, which is not necessarily positive, especially if lack of pain makes the illness difficult to diagnose.

corpus and years	evaluation	frequency	per mil	percentage
BNC 1960-1993	positive	23	0.23	19%
	negative	6	0.05	5%
	unclear	93	0.93	76%
Total		122	1.22	100%

Table 4.25: The evaluation of the uses of *painless* in the BNC, according to the positive/negative parameter.

corpus and years	evaluation	raw frequency	normalised frequency	percentage
COCA 1990-2012	positive	180	0.4	20.5%
	negative	30	0.07	3.5%
	unclear	671	1.49	76%
Total		891	1.98	100%

Table 4.26: The evaluation of the uses of *painless* in COCA, according to the positive/negative parameter.

As the tables show, the uses of *painless* do not seem to express clear evaluation. The majority of tokens (76% across both corpora) were classified as 'unclear', with positive uses as most of its remaining examples (represented by an average of 20%). Next, I analysed the collocates of *painless* in both corpora. The lexical items used with it in the BNC were not frequent enough to focus on items with frequency of 5 or above and I therefore generated a list of the 25 first lexical items used with *painless* at least twice, as presented below in table 4.27. Table 4.28 shows the collocates of *painless* generated in COCA.

corpus and years	lexical item	frequency	MI
BNC 1960-1993	swellings	2	13.36
	jaundice	2	11.47
	syphilis	2	9.97
	relatively	18	8.26

	comparatively	2	7.81
	quick	5	6.84
	killing	2	6.50
	procedure	3	6.11
	examination	2	5.79
	manner	2	5.50
	solution	2	5.29
	easy	4	5.22
	completely	2	5.00
	methods	2	4.90
	method	2	4.89
	learning	2	4.89
	usually	4	4.81
	unless	2	4.62
	death	3	4.33
	computer	2	4.29
	ways	2	4.18
	process	3	4.15
	bring	2	4.15
	way	12	4.06
	possible	4	3.98

Table 4.27: The lexical items used with *painless* in the BNC, ordered according to a decreasing MI value.

corpus and years	collocate	frequency	MI
COCA 1990-2012	enlarging	9	10.45
	bloodless	5	9.78
	swelling	13	8.54
	relatively	68	7.63
	procedure	30	7.35
	quick	60	7.22
	swift	6	6.75
	suicide	10	5.73
	peaceful	5	5.62
	totally	10	5.35
	solutions	6	5.33
	solution	9	5.01
	mass	14	4.96
	easy	23	4.92
	death	31	4.83
	virtually	6	4.78
	transition	5	4.72
	possible	28	4.65

	simple	13	4.42
	process	25	4.26
	usually	13	4.23
	pretty	16	4.23
	fast	8	4.04
	neck	5	3.95
	ways	13	3.87

Table 4.28: The collocates of *painless* in COCA, ordered according to a decreasing MI value.

First of all, many of the collocates of *painless* seems to be used in medical contexts. They are related to illnesses (e.g. *jaundice* and *syphilis*), their symptoms (e.g. *swellings*, *enlarging*) and other related vocabulary (e.g. *examination* and *procedure*, although the latter one can also be used in other contexts apart from the medical one) (see (55) and (56) below).

> (55) So earlier this year, Mrs. Bush began the first of 10 treatments in which low-dose radiation beams are aimed at her eyes. When done *properly*, this **procedure** is **painless** and produces *no side effects*. The radiation beams are targeted at the swollen tissue behind the eyes, avoiding the eyeballs themselves. The radiation should *help relieve* the pressure that's causing her eyes to bulge and *reduce* the inflammation of her eye muscles that's causing her double vision.
>
> COCA/Prevention/magazine/1990

The above quotation describes a treatment used on a person suffering from eye problems. It describes the procedure as *painless*, resulting in *no side effects*, *help*ing *relieve* the symptoms and *reduc*ing soreness, all of which seem positive so the evaluation of the extract was also positive.

> (56) In July 1988 the patient presented again to the same hospital with a three week history of generalised pruritus, **painless jaundice**, dark urine, and pale stool. Physical examination confirmed jaundice and the presence of hepatomegaly.
>
> BNC/Gut: Journal of Gastroenterology/academic/1985-1994

This example reviews symptoms experienced by a particular patient, as a part of a diagnosis. It uses *painless* to specify the type of jaundice but does not reveal clear

positive or negative evaluation (since lack of symptoms might, in fact, make diagnosis more difficult), so again, it was evaluated as 'unclear'.

The second group of collocates that seems to share meanings are *death*, *killing* and *peaceful*, all of which are used with *painless* in the context of ending life, either an animal's or human's (see (57) and (58) respectively). As it will be explained below, not all of the occurrences of *painless* with those collocates express negative evaluation.

> (57) Indeed the 1986 UK Act specifies that all mammals, with the exception of birds and farm animals, are' to be obtained only from designated breeding or supplying establishments' (Schedule 2). The irony, remarked upon in connection with the supply of food animals, repeats itself here since the vast majority of these creatures will *enjoy* a *well fed*, *decently housed*, and sometimes even *pampered* existence, prior to a **painless death**.

BNC/Against Liberation: Putting Animals in Perspective/academic/1985-1994

This quotation is an example of *painless* used in the context of *death*, and yet with overall positive evaluation due to expressions such as *enjoy*, *well bread* and *pampered* that introduce it. The fact that it is devoted to the animal topic is not related to its evaluation though, it appears also when subjects are people.

> (58) She had cheated *death*. Denied the *devil*. Vassago *hated* her for that, because it was in the service of *death* that he had found meaning to his own existence. He tried to reach out and touch her through the body of the man driving the car. *Failed*. It was only a dream. Dreams could not be controlled. If he could have touched her, he would have made her *regret* that she had turned away from the comparatively **painless death** by *drowning* that could have been hers.

COCA/Hideaway/fiction/1992

The above example is not a straightforward one, but it seems that the context in which *painless* and *death* are used here is predominantly negative, especially since it is used with words such as *devil*, *failed*, *regret* and *drowning*.

The next group of collocates features the most recent meaning expressed by *painless*, which is not concerned with the lack of actual pain but rather lack of inconvenience or difficulty that would otherwise be expected, and is used with

words such as *manner*, *solution*(*s*), *process*, *transition* and *learning*. There does not seem to be one particular context in which they appear, but they were repeatedly found describing recommended ways to improve one's diet, save money, repair devices as well as to discuss issues relevant in politics. Below, I present two uses of *painless* that express its most frequent metaphorical meaning 'easy' or 'effortless' (see (59) and (60) below).

> (59) *Enjoy* a Mediterranean-style diet, with lots of olive oil, salads, pasta, grains and fresh bread and you could be *helping* to *reduce* your risk of cancer and heart disease. That's the latest, very *positive* message from the World Health Organisation (see p.80) and a *deliciously* **painless way** to ensure a *healthy* diet.
>
> BNC/BBC Good Food/magazine/1985-1994

This example discusses a novel diet that was *positive*ly reviewed by WHO as being *healthy* and at the same time *delicious*. As dieting usually involves effort, the context in which *painless* is used here is clearly positive and so seems the meaning of *painless* itself.

> (60) " Battling the Deficit, " George Will advocated a balanced- budget amendment to the Constitution. The idea has merit, but we should not pretend that it would be a **painless solution** to the *problem* of deficit spending.
>
> COCA/San Francisco Chronicle/newspaper/1993

The extract considers American deficit and the nation's options to decrease it. The deficit itself is presented as a *problem* that is complex and difficult to manage. *Painless* is used with *solution* to describe an idea that is treated with disbelief and hope at the same time.

Finally, some of the collocates of *painless* can be used in both metaphorical and non-metaphorical contexts (i.e. related to lack of physical pain and lack of difficulty). These are, for example, *relatively*, *totally, quick* and *swift*. For instance, see the use of *quick* in examples (61) and (62) below.

> (61) MOTORAIL is a **quick** and **painless** way to get to the South of France. The station at Dieppe is less than half-a-mile from the ferry port and is *well-*

signposted. The family accommodation consists of six couchettes, which second-class passengers may have to share, and four in the first-class ones.

BNC/The Daily Mirror/newspaper/1985-1994

This example reports a convenient transport option between the UK and France. It consists of mildly positive expressions such as *quick* and *well-signposted*. The use of *painless* was classified as positive.

(62) " It's **quick**, easy, and **painless**, there's *no* radiation *exposure* or *risk*, and it can *save* your life. " And now, it's also *free*. The Olay Skin Cancer Takes Friends program is offering *free* skin cancer screenings nationwide, now through the end of July.

COCA/Redbook/magazine/2008

The above quotation describes a skin cancer screening programme offered by one of cream brands. It includes even more positively evaluated words, such as *quick*, *easy*, *free*, *save*, *no exposure* or *risk* so such was also the evaluation of *painless*.

As the next step of my analysis, I continued to examine the associations between the lexical items used with *painless* (presented in tables 4.27 and 4.28 above) and prepared its collocational network. It is presented in figure 4.4 below.

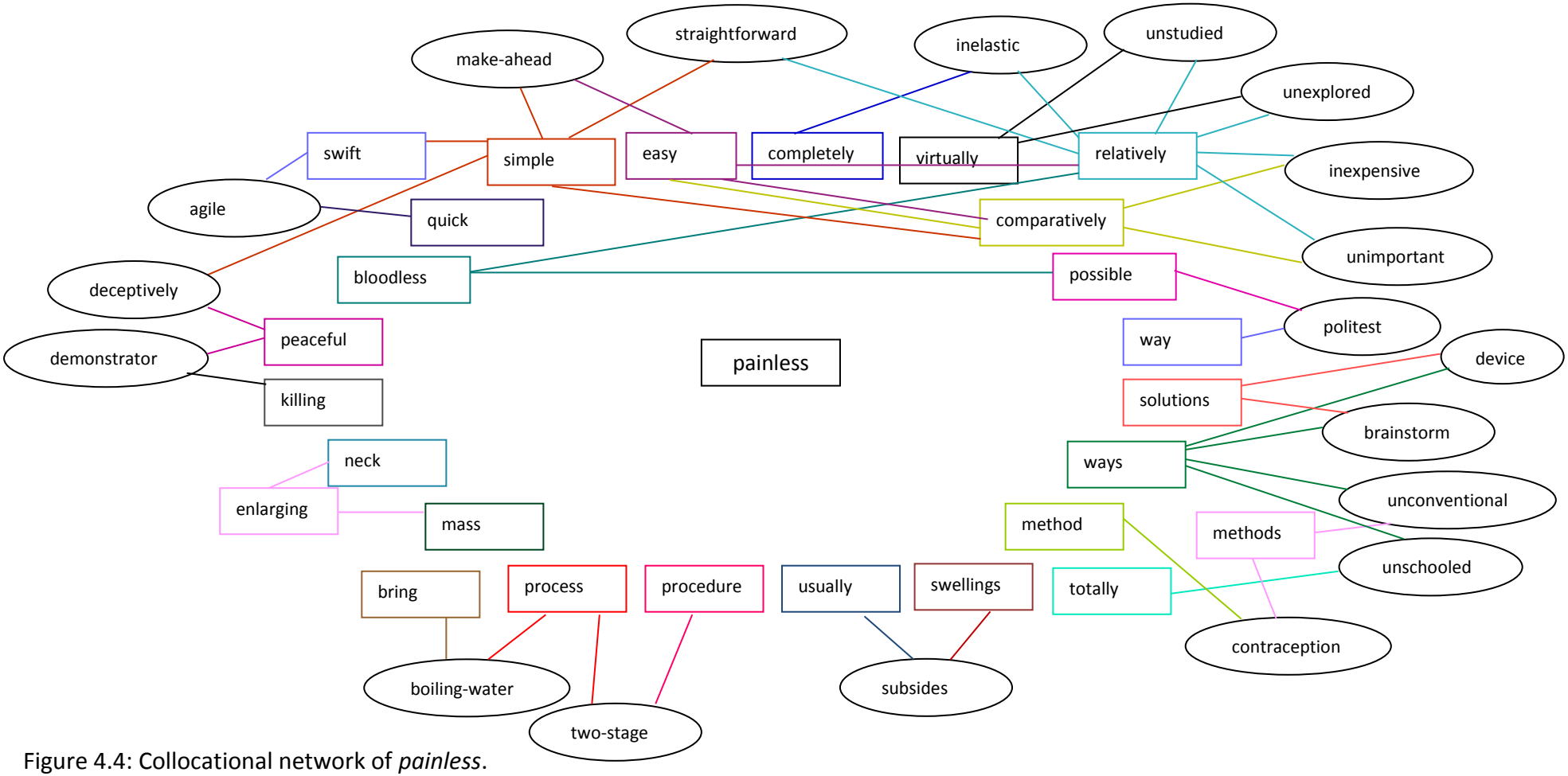

Figure 4.4: Collocational network of *painless*.

As illustrated in the network, many of the items from the tables above display links on primary and secondary collocational levels. The items that appeared on the network confirm the senses of *painless* listed by the dictionaries. Moreover, it seems to suggest that its uses with words relating to physical pain (such as *enlarging*, *bloodless*, *killing*) are becoming secondary compared to its most recent, metaphorical uses (represented by words such as *solutions*, *way*(*s*), *method*(*s*)), as their side of the network is more developed. The figure also shows that the adjectives and adverbs (e.g. *simple* and *relatively*) can be used with *painless* expressing either of its meanings.

The examination of all of the uses of *painless* in the corpora shows that the metaphorical meaning is not predominant yet, but it constitutes over half of its uses already. According to my analysis, 51% of the uses of *painless* in the BNC and 53% of its uses in COCA represent the most recent meaning of 'involving no awkwardness, difficulty, or inconvenience; easy, straightforward' (OED; painless, adj., sense 3).

The last part of my analysis is the discussion of genres in which *painless* appeared in corpora. Table 4.29 shows the results for the BNC and 4.30 for COCA.

corpus and years	variety	genre	frequency	per mil	percentage
BNC 1960-1993	spoken		6	0.60	5%
	written	fiction	14	0.88	11.5%
		magazine	17	2.34	14%
		newspaper	16	1.53	13%
		academic	17	1.11	14%
		miscellaneous	52	2.90	42.5%
		total	122	1.27	100%

Table 4.29: The distribution of *painless* in different genres of the BNC.

corpus and years	variety	genre	frequency	per mil	percentage
COCA 1990-2012	spoken		111	1.16	13%
	written	fiction	167	1.85	19%
		magazine	335	3.51	38%
		newspaper	133	1.45	15%
		academic	135	1.48	15%
		total	881	1.91	100%

Table 4.30: The distribution of *painless* in different genres of COCA.

As presented in the tables above, *painless* was found in all of the genres but appeared especially frequently in magazines, in both corpora (with normalised frequencies of 2.34 and 3.51 in BNC and COCA respectively).

With regards to genre distribution of particular senses of *painless*, there seems to be a clear distinction in the way they are used. The first sense of *painless*, related to lack of physical pain, appears more frequently in academic texts (as represented by 19% of its uses in the BNC but 44% in COCA) which discuss particular cases of patients and their illnesses (e.g. journals such as *Ear Nose Throat*, *Practice Nurse*) as well as magazines (29% of its uses in COCA), especially ones reviewing beauty treatments (e.g. *Harper's Bazaar*) or providing advice on healthier living (e.g. *Prevention*). The second sense of *painless*, related to lack of effort or difficulty, seems to appear predominantly in magazines (19% of its uses in the BNC and 43% in COCA), especially ones that are concerned with, for example, housekeeping ideas (e.g. *Good Housekeeping*) or repairs (*Popular Mechanics*). It is also moderately numerous in newspapers (15% of its uses in the BNC and 13% in COCA), especially in the contexts of solutions, processes and transitions of various kind.

4.4.2.2 *Pain-free* in the corpora

I examined the evaluation of 9 uses of *pain-free* in the BNC and 183 uses in COCA, the results of which are presented in tables 4.31 and 4.32 below.

The occurrences of *pain-free* I evaluated as 'positive' included other positively evaluated words such as *comfortable*, *effective*, *healthy*, *precise* and *stress-free*. There was only 1 occurrence that I classified as 'negative'; similarly to *painless*, it was used in the context of death. When there appeared to be no clear evaluation, positive or negative, I marked the uses as 'unclear'.

corpus and years	evaluation	frequency	per mil	percentage
BNC 1960-1993	positive	4	0.04	44%
	negative	1	0.01	12%
	unclear	4	0.04	44%
Total		9	0.09	100%

Table 4.31: The evaluation of the uses of *pain-free* in the BNC, according to the positive/negative parameter.

corpus and years	evaluation	frequency	per mil	percentage
COCA 1990-2012	positive	89	0.20	49%
	negative	-	-	-
	unclear	94	0.21	51%
Total		183	0.41	100%

Table 4.32: The evaluation of the uses of *pain-free* in COCA, according to the positive/negative parameter.

As displayed in the tables above, *pain-free* seems to be used in 'positive' and 'unclear' (or neutral) contexts. They are represented by nearly even numbers in both tables (44% for both 'positive' and 'unclear' uses in the BNC and 49% and 51% in COCA). The appearance of *pain-free* in negative context is extremely unlikely. It was only found used negatively once, in the BNC (12%).

Next, I will examine lexical items (which I do not call collocates due to a frequency lower than 5) used with *pain-free*. There were not enough occurrences of *pain-free* in the BNC to discuss collocates that appeared at least 5 times, but I generated a list of 25 words used with it twice or more in COCA. I will also try to group the expressions according to meanings and/or uses and discuss them accordingly.

corpus and years	lexical item	frequency	MI
COCA 1990-2012	dignified	2	9.15
	joints	3	8.40
	arthritis	2	8.11
	guarantees	2	7.71
	thrilled	2	7.62
	throwing	4	7.24
	procedure	4	6.74
	peaceful	2	6.59
	seemingly	2	6.54
	maintaining	2	6.50
	virtually	4	6.49
	relatively	5	6.16
	comfortable	4	6.13
	nights	2	5.79
	existence	2	5.58
	healthy	3	5.54

	motion	2	5.54
	remained	2	5.05
	sleep	3	4.97
	patients	4	4.87
	walk	3	4.55
	possible	5	4.46
	experience	4	4.09
	range	2	4.06
	movement	2	3.94

Table 4.33: The lexical items used with *pain-free* in COCA, ordered according to a decreasing MI value.

As it is noticeable from the table above, similar to *painless*, *pain-free* can also be used with medicine specific vocabulary, for example, *arthritis*, *joints*, *healthy*, *patient*, *procedure*. If those are used within informative descriptions of ailments or their treatments, their evaluation is usually 'unclear' (see (63) below). However, it seems that when used by the people who themselves experience them, the contexts tend to be 'positive' (see (64)).

(63) In kyphoplasty, a slightly more complex procedure, the doctor inserts a small balloon into the fractured bone. […] The balloon is removed, and the space that remains is filled with cement. Dr. Phillips says that about 90% of his **patients** report being **pain-free** after the operation.

COCA/Prevention/magazine/1992

This extract is a step by step explanation of a complicated medical procedure. It does not consist of clearly evaluative words so it was classified as 'unclear'.

(64) Early on, I r*ecommended* medicines that would make her neurons *supple* just as the injections kept her **joints pain-free** and *flexible*. She said, " I *don't like pain*. I don't mind fading away. "

COCA/Another Life/fiction/2009

The above quotation is an account of someone's treatment as recalled by their friend. The friend uses words such as *recommend*, *flexible* and *supple*, while the patient also admits to '*not like*' pain, all of which express 'positive' evaluation with regards to *pain-free*.

In fact, all of the lexical items listed above are used with *pain-free* in contexts expressing the lack of physical pain, even if they cannot be classified as medical

vocabulary themselves, such as *guarantees*, *seemingly*, *thrilled*, *movements*, *sleep* etc. (see (65) and (66) below).

> (65) In Anatomy of an Illness, first published in 1976, I had reported my discovery that ten minutes of solid belly *laughter* would give me two hours of **pain-free sleep**. Since my *illness* involved severe *inflammation* of the spine and joints, making it *painful* even to turn over in bed, the practical *value* of *laughter* became a *significant* feature of *treatment*.
>
> COCA/Saturday Evening Post/newspaper/1990

This quotation is a report of a discovery important in the treatment of pain. It mentions laughter as an alternative therapy for chronic pain. It includes negatively evaluated words when describing the ailment (e.g. *illness*, *inflammation* and *painful*) but positive ones with regards to its treatment (e.g. *laughter*, *significant* and *value*).

> (66) Finally, I talk about his most recent studies, how much the cancer had advanced, how it was the large tumor nodules that were *affecting* his breathing, not fluid or pneumonia. There didn't seem to be a lot we could do, except keep him **comfortable** and **pain-free**. And, if he *wished*, we would *avoid* artificial ventilation, cardiac resuscitation, breathing machines, and electric paddles.
>
> COCA/Health Affairs/fiction/2003

The wider context of this example seems neutral as it is an account of someone's illness progression. However, the use of *pain-free* with *comfortable* in a confession of attempts to make the patient content suggests a positive evaluation.

There are very few exceptions which do not seem to be used in the context of 'lack of pain' but rather in domains where the metaphorical 'lack of difficulty' sense, developed by *painless*, is prominent. An example of such use is presented in (67) below.

> (67) Democrats in Congress, *intimidated* by Mr. Reagan's *popularity* and *enticed* by a **seemingly pain-free approach** to financing the Government, not only sided with the President but managed to one-up him with their *generosity*.
>
> COCA/New York Times/newspaper/1994

This example illustrates a non-medical context in which *pain-free* can also appear. Here, it is used with a positive meaning to describe a successful political and financial approach of one of the American politicians, using words such as *popularity*, *enticed* and *generosity*.

Next, as with the other counterpart expressions, I prepared a collocational network for *pain-free*. It should be noted here that *pain-free* is a relatively new expression and it did not reveal any collocates in the BNC. The network presented in figure 4.5 below was therefore built on the basis of lexical items used with *pain-free* in COCA only (table 4.33 above).

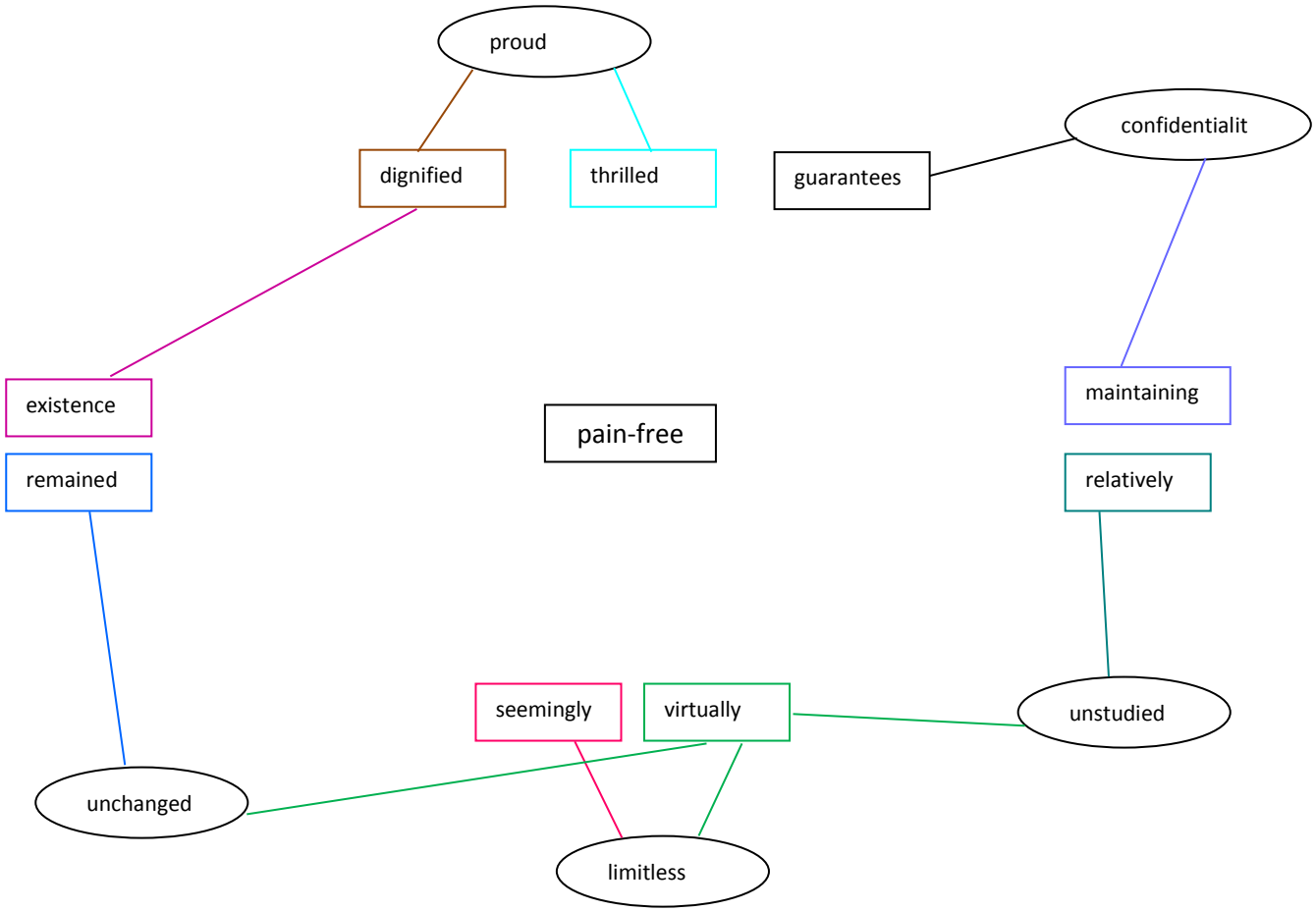

Figure 4.5: Collocational network of *pain-free*.

The network above shows that only a few of the items used with *pain-free* share their collocates. With regards to the expressions that appeared in the table 4.33 above, even though some of the medicine related terms appeared strong, they did not show any links with other words so they are not a part of the network. Most of the words that are linked on the network are adjectives and adverbs which do not reveal that much about the meaning of *pain-free* itself.

Finally, I will discuss the distribution of *pain-free* in particular genres. Tables 4.34 and 4.35 show the results of the examinations of the BNC and COCA respectively.

corpus and years	variety	genre	frequency	per mil	percentage
BNC 1960-1993	spoken		-	-	-
	written	fiction	-	-	-
		magazine	2	0.28	22.5%
		newspaper	2	0.19	22.5%
		academic	-	-	-
		miscellaneous	5	0.30	55%
		total	9	0.09	100%

Table 4.34: The distribution of *pain-free* in different genres of the BNC.

corpus and years	variety	genre	frequency	per mil	percentage
COCA 1990-2012 Total	spoken		16	0.17	9%
	written	fiction	11	0.12	6%
		magazine	99	1.04	54%
		newspaper	41	0.45	23%
		academic	15	0.16	8%
		total	182	0.39	100%

Table 4.35: The distribution of *pain-free* in different genres of COCA.

As shown in the tables, *pain-free* is not evenly spread in all of the genres. Especially in COCA, when it becomes more frequent, it is used predominantly in magazines (1.04 of normalised frequency) and newspapers (0.45).

Investigating the uses of *pain-free* in magazines in more detail, it seems that it is used in the contexts of recovering sports injuries (e.g. in *Men's Health*) or advice on how to perform exercises correctly (e.g. *Shape*), articles discussing beauty regimes (e.g. *Cosmopolitan*, *Prevention*) or procedures and drugs treating various

illnesses (e.g. *Total Health*, *Science News*). The use of *pain-free* is similar in newspapers. They mention it in articles focusing on fixing injuries and reporting recovering from accidents, especially with regards to sportsmen.

4.4.3 Pain and ideology

The differences in use between *painless* and *pain-free* as discussed above are not enough to explain why *pain-free* was needed if *painless* was already available. The experience of pain is an indispensable part of human experience, one that is very difficult to measure and communicate. Additionally, the attitude towards pain has changed radically in the past century, the most important factors for which will be discussed below.

To begin with, "historians of medicine have tended to neglect pain, a subject routinely side lined in broader studies of disease and illness" (Miller 2015:191). Relieving pain has not been well documented, but it also simply did not use to be the focus of doctors, as medicine was still a developing craft. Effective anaesthetic and pain-relief methods were only introduced in the nineteenth century, when a German doctor, Friedrick Sertuerner, discovered morphine as the active ingredient in opium (Han 2015:22).

Apart from the lack of painkillers and the fact that developing pain relief was not the priority of doctors, the meaning of pain was also understood altogether differently before the nineteenth century by the ones who suffered from it. Pain was conceptualised as a religious and cathartic experience, understood as a consequence of sins and a way to redeem them. As a result, suffering from pain was, in fact, "imbued with positive meanings" and was believed to reform the sinners (Miller 2014:191-192).

Furthermore, since there was no solution to pain, people simply had to endure it. Women had to go through childbirth in the natural and painful way, not having options that are nowadays available. Men, on the other hand, if injured at war, were told to 'be a man' and suffer in silence, even by nurses (Bourke 2014:65). The development of anaesthesia was the beginning of a shift in how pain was perceived. It ceased to be accepted as something we have to suffer through, unless

we choose to. “Effective pain management is [now] a priority of care and a patient right” (Jarzyna et al. 2011:118).

Nowadays, we have access to not only doctors’ prescribed drugs used by people suffering from chronic diseases and anaesthesia applied in hospital theatres. We can also buy over the counter painkillers for any aches we experience without even seeing a doctor. Avoiding pain has also proven important with regards to any beauty treatments that are widely advertised in modern press. As discussed in section §4.4.2.2, it is mainly *pain-free* that is applied in beauty related contexts.

As a consequence, pain became nothing more than a mere inconvenience that can be easily solved. In fact, it is possible that this mental link is one of the reasons why *painless* developed the meaning ‘involving no awkwardness, difficulty, or inconvenience’ (OED *painless,* adj. sense 3) that also occasionally appears in the uses of *pain-free*. Additionally, due to the appearance of that more recent meaning and since it is the lack of pain (and not pain itself as it was in the past) that is presently perceived as positive, the more neural term *painless* might be taken over by one imbued with a more positive association, i.e. *pain-free*.

4.4.4 Conclusions

The present section examined the similarities and differences between *painless* and *pain-free*. First, I reviewed the meanings assigned to the two expressions by available dictionaries. Second, I focused on their uses in the BNC and COCA corpora. I investigated the evaluation of *painless* and *pain-free* occurrences, the lexical items with which they are used as well as the genres in which they appear. I also briefly discussed differences between the two considering changes in ideology.

Painless has developed meanings such as ‘free from pain’, ‘causing no pain’ and a most recent one—‘involving no difficulty’. Despite the fact that all of those seem positive, the contexts in which *painless* appears in the corpora are mainly ‘unclear’. It tends to be used to discuss lack of physical pain as a result of medical procedures or illnesses, as well as to describe concepts that are usually expected to be problematic but turned out effortless, in its more metaphorical meaning. Its latter use is becoming increasingly frequent, which is reflected on the collocational network. The medical related use of *painless* was found mainly in the academic

genre and magazines focusing on healthy living, while the meaning concerned with lack of difficulty appears mainly in magazines offering efficient tips and newspaper reports.

The definition of *pain-free* includes the earliest of the meanings of *painless*, i.e. 'free from pain'. It is, however, used in more positive contexts than its counterpart ending in *–less*. Similarly to *painless*, *pain-free* appears with medical vocabulary (e.g. *arthritis*), in contexts related to health and beauty. The network of *pain-free* is not very developed, the most prominent parts being the adjectives and adverbs. It was not found to be evenly distributed in all of the genres, appearing predominantly in magazines and newspapers, both of which seem to focus on treating pain as a result of injuries or illnesses or undergoing beauty treatments. It is possible that *pain-free* is taking over the original meaning of *painless*, which in turn is developing in the more metaphorical direction of its most recent meaning.

4.5 Avoiding sugar: *sugarless/sugar-free*

People are becoming more aware of the influence of food products on their health and fitness. Sugar especially is avoided because it is very caloric. This section is devoted to two words that express lack of sugar: *sugarless* (§4.5.1 and §4.5.2.1) and *sugar-free* (§4.5.1 and §4.5.2.2), with the aim to uncover the differences between their meanings and uses.

4.5.1 *Sugarless* and *sugar-free* in the dictionaries

According to the OED, *sugarless* dates back to the 18th century; however, it only appears in 5 out of 14 dictionaries consulted here, and only from 1951 onwards. Four of them mention it as a derivative of *sugar* but do not provide definitions. Only the OED explains its meaning, as 'without sugar, unsugared' (OED; *sugarless*, adj.), and offers examples of use, presented in (68), (69) and (70) below:

(68) *His dishes of sugarless tea*.

OED (*sugarless*, adj.)/Cowper 1785

(69) *Green vegetables and sugarless wines and spirits*.

OED (*sugarless*, adj.)/Allbutt 1896

(70) *A cup of lukewarm coffee, sugarless and milkless*.

OED (*sugarless*, adj.)/Pall Mall Magazine 1898

The combination *sugar-free* was coined later than its counterpart in *–less* and is mentioned in three of the researched dictionaries. The first of them, Chambers Dictionary (1993:1725), explains it as 'containing no sugar', which makes it seem synonymous with *sugarless*. The second dictionary, which is an edition of Chambers Dictionary published just a few years later (Chambers 21st Century Dictionary 1999:1412), suggests it developed a more specific meaning, i.e. 'containing no sugar, but instead containing some form of artificial sweetener such as aspartame'. Third, the OED does not provide us with an entry or a definition at all but limits its appearance to a compound within the entry of *sugar* (OED; *sugar*, noun) and gives the following examples of use:

(71) *Three other totally depancreatized*[43] *dogs had been used for studying the administration of insulin…for several weeks, during which time their urine was never sugar-free for a period of more than 6 or 7 hours at a time*.

OED (*sugar,* combination *sugar-free*, adj.)/American Journal of Psychology 1924

(72) *The absence of what has formerly been desirable in now proudly advertised: not only lead-free gas, but salt-free diets and sugar-free drinks*.

OED (*sugar,* combination *sugar-free*, adj.)/New York Times Magazine 1978

The next section will use the above mentioned information provided by dictionaries and analyse the uses of *sugarless* (§4.5.2.1) and *sugar-free* (§4.5.2.2) in the BNC and COCA corpora.

4.5.2 *Sugarless* and *sugar-free* in the corpora

4.5.2.1 *Sugarless* in the corpora

I have investigated a total of 69 occurrences of *sugarless*, 3 of which were found in the BNC and 66 in COCA (one use as a book title *Sugarless* was discarded). The results of my evaluation analysis are presented in tables 4.36 and 4.37, for the BNC and COCA respectively.

The data suggest that *sugarless* is usually used in contexts expressing either no or positive evaluation, with the unclear more frequent than the positive one. I decided to classify the uses of *sugarless* as 'positive' when they were applied in contexts suggesting that it is for some reason better or helpful to use a product that is *sugarless*, usually with words carrying positive meanings, such as *good*, *help* and *health*. There were also a few negatively evaluated uses, which describe *sugarless* products as *boring* or even *toxic*, especially when they contain artificial sweeteners instead of sugar.

corpus and years	evaluation	frequency	per mil	Percentage
BNC 1960-1993	positive	2	0.02	66%
	negative	-	-	-
	unclear	1	0.01	34%

[43] All of the quotations include original spelling and orthography.

Total		3	0.03	100%

Table 4.36: The evaluation of the uses of *sugarless* in the BNC, according to the positive/negative parameter.

corpus and years	evaluation	frequency	per mil	percentage
COCA 1990-2012	positive	24	0.05	36%
	negative	6	0.01	9%
	unclear	36	0.08	55%
Total		66	0.14	100%

Table 4.37: The evaluation of the uses of *sugarless* in COCA, according to the positive/negative parameter.

As presented in table 4.36, there were only 3 cases of *sugarless* in the BNC. It was found once with no clear evaluation and twice in positive contexts. It was found more frequently in the COCA corpus though (table 4.37), where it seems to be used mainly in unclear (neutral) and positive contexts (represented by 36% and 24% respectively). It was also found in some negative contexts, but the least frequent of all (represented by 6% only).

Next, I wanted to investigate the collocates of *sugarless*. However, due to a low number of occurrences, I had to decrease the frequency according to which I was performing my searches, as there were only a couple of collocations as strong as to appear 5 times. There were no resultant lexical items found in the BNC though, due to few examples of *sugarless* in that corpus. Table 4.38 shows all 12 words (as they were all believed to contribute to the meaning of *sugarless*) found to be used with *sugarless* in COCA.

	lexical items	Frequency	MI
1.	gum	2	13.59
2.	toothbrushes	37	12.93
3.	gums	2	11.32
4.	fat-free	2	11.27
5.	chew	4	11.08
6.	chewing	5	10.98
7.	diet	3	7.67
8.	stick	3	7.35
9.	pack	2	7.07

10.	pieces	2	6.16
11.	coffee	2	6.16
12.	free	2	4.51

Table 4.38: The lexical items used with *sugarless* in COCA, ordered according to a decreasing MI value.

The first group of lexical items from the above tables that seem to be closely related are *gum*(*s*), *chew*(*ing*), *stick*, *pack* and *pieces*. The predominant contexts in which they were found to be used are concerned with dental care and using *sugarless gum* to increase the amount of saliva in people's mouth, which is supposed to prevent cavities as well as bad breath (as illustrated in (73) below). There are also many uses of *chew*(*ing*) *sugarless* and *sugarless gum*(*s*) in the context of dieting, especially with regards to substituting or avoiding unnecessary snacks (see (74)).

> (73) During the night, there's a natural decrease in salivary flow, allowing bacteria to multiply. The odor is most potent in people who snore or breathe through their mouth because these conditions make the mouth even drier. 4 **Chew sugarless gum**. For the same reason that drinking water is *important*, sugarless gum is *good* for your teeth because it keeps your saliva flowing.
>
> COCA/Vegetarian Times/magazine/2001

This extract provides advice for people struggling with bad breath and dental problems. It recommends *chew*ing *sugarless gum*, which is believed to result in an effect similar to drinking water, i.e. relieving dry mouth and reducing the amount of bacteria that cause the aforementioned problems. It includes two adjectives—*good* and *important*—that highlight the positive evaluation of this suggestion.

> (74) Grab some gum. **Chewing sugarless gum** while cooking will *discourage* you from tasting *too much*, which *can* result in a lot of *added calories*.
>
> COCA/Washington Post/newspaper/2010

The above quotation also advises *chewing sugarless gum*, but here it is to avoid snacking while preparing a meal. Doing so is negatively evaluated by *discourage*, *too much* and *added calories* (supported by certainty parameter in *can*) which emphasise that we should refrain from overeating before the meal is ready and, as a result, evaluate *chewing sugarless gum* as positive.

Since some of the items used with *sugarless* will also appear among the collocates of *sugar-free* (see §4.5.2.2), I decided to compare their development in three year blocks, hoping to notice even more of a difference in their development. The results of conducted searches are presented in tables 4.39-4.41 below.

year block	lexical items	frequency	MI
COCA 1990-1996	gum	11	13.88

Table 4.39: The lexical items used with *sugarless* in the first year block of COCA, ordered according to a decreasing MI value.

year block	lexical items	frequency	MI
COCA 1997-2004	gum	12	13.12
	fat-free	2	12.44
	chewing	3	11.47
	stick	2	7.99
	pieces	2	7.34
	free	2	5.88

Table 4.40: The lexical items used with *sugarless* in the second year block of COCA, ordered according to a decreasing MI value.

year block	lexical items	frequency	MI
COCA 2005-2012	gum	11	13.86
	chew	3	12.20

Table 4.41: The lexical items used with *sugarless* in the third year block of COCA, ordered according to a decreasing MI value.

As it can be observed from the tables, the lexical items used with *sugarless* have been almost always exclusively related to chewing gums. Only the second year block suggests a possible widening of use, but it seems to be lost in the most recent one.

Next, I will discuss a collocational network for *sugarless* prepared using the lexical items from table 4.38 (in squares) that shared at least one of each other's collocates (in circles). The result is presented in figure 4.6 below.

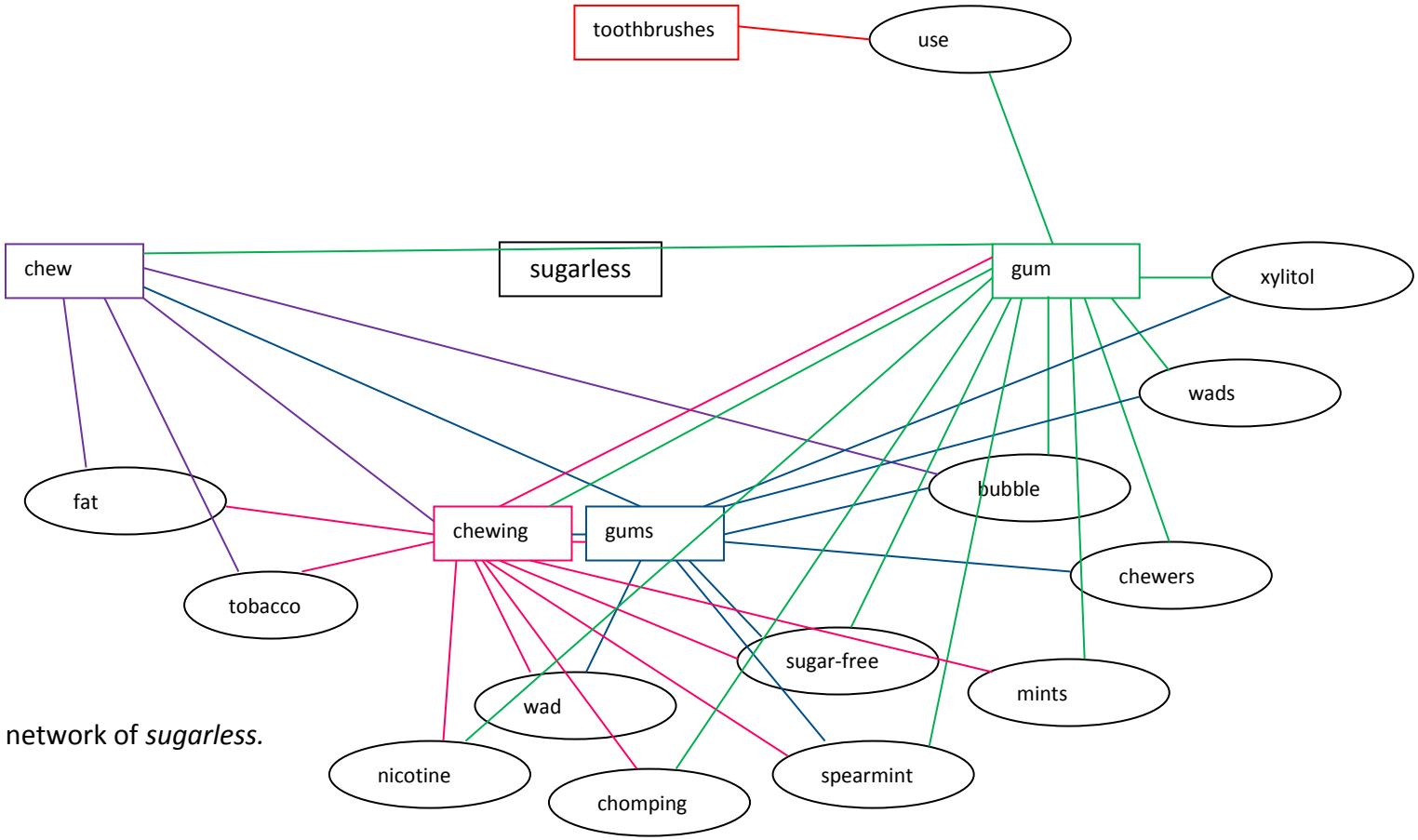

Figure 4.6: Collocational network of *sugarless.*

As it can be observed from the network, the majority of words used with *sugarless* and related with each other were found to be associated with chewing gums. Even though *toothbrushes* seems unrelated, they are not, considering that one of the most frequent contexts for chewing gums is dental care (as discussed above). The shared collocations describe gum types (e.g. *bubble*), flavours (e.g. *spearmint*), sugar contents (e.g. *sugar-free*), etc. Regarding the collocations that have slightly different meanings, for example, *tobacco* appears there because it is also chewed and frequently appears in such context, *fat* is found with it due to an idiomatic expression 'chew the fat' which means 'small talk', while *mints* are frequently suggested as an alternative to gums as chewing them also has a refreshing effect on breath.

Finally, I will review the genres in which the occurrences of *sugarless* were found in both the BNC and COCA. The results of my BNC examination are presented in table 4.42 and the results of COCA in table 4.43 below.

corpus and years	variety	genre	frequency	per mil	percentage
BNC 1960-1993	spoken	spoken	1	0.1	33.3%
	written	fiction	1	0.06	33.3%
		magazine	1	0.14	33.3%
		newspaper	-	-	-
		academic	-	-	-
		miscellaneous	-	-	-
		total	3	0.03	100%

Table 4.42: The distribution of *sugarless* in different genres of the BNC.

corpus and years	variety	genre	frequency	per mil	percentage
COCA 1990-2012	spoken		1	0.01	1.5%
	written	fiction	18	0.2	27%
		magazine	32	0.33	48.5%
		newspaper	11	0.12	17%
		academic	4	0.04	6%
		total	66	0.13	100%

Table 4.43: The distribution of *sugarless* in different genres of COCA.

As shown in table 4.42, the numbers of the occurrences of *sugarless* found in the BNC are extremely low. It only appears once, in fiction, spoken and magazine genres, respectively. However, there is a significant increase in its uses, and hence, genre

variety of *sugarless* in COCA, as presented above in table 4.43. It appears in all of the text types, however, especially frequently in magazines (0.33), fiction (0.2) and newspapers (0.12).

A more detailed inspection of the dominant genre, i.e. magazines, confirmed the most frequent uses of *sugarless*, as discussed above. It was found in articles discussing tooth decay and problems with bad breath (e.g. in *Vegetarian Times* and *Prevention*) as well as in ones providing dietary advice (e.g. *Shape*, *Bazaar*).

4.5.2.2 *Sugar-free* in the corpora

The previous subsection discussed the results of my analysis of the meaning and uses of the adjective *sugarless*. The present one will focus on the formation *sugar-free*, which is also used to describe products or diets without sugar. The most recent dictionary definition available suggests it indicates presence of artificial sweeteners instead of sugar. I will investigate its corpus uses to examine its meaning and assess the validity of that claim.

I examined 22 uses of *sugar-free* available in the BNC and 171 uses available in COCA (a couple of occurrences that belonged to names of products, such as *Judy's Sugar-Free Caramels*, were discarded). The results of their evaluation are shown in tables 4.44 and 4.45 below.

The evaluation that was found expressed by *sugar-free* is usually either positive or unclear (neutral). The contexts in which it was classified as 'positive' discussed a *sugar-free* diet as beneficial for health or such products as better than the sweetened ones, mentioning words such as *good*, *greatest*, *health*, *prefer* or *proud*. They were evaluated as 'unclear' when they were found in neutral contexts such as food lists or recipes but with no evaluative expressions. The few uses of *sugar-free* evaluated as 'negative' express worries that *sugar-free* food might include other sweetening substances, some considered harmful and described as, for example, *toxic*.

corpus and years	Evaluation	frequency	per mil	percentage
BNC 1985-1993	positive	16	0.17	73%
	negative	-	-	-
	unclear	6	0.06	27%
total		22	0.23	100%

Table 4.44: The evaluation of the uses of *sugar-free* in the BNC, according to the positive/negative parameter.

corpus and years	evaluation	frequency	per mil	percentage
COCA 1990-2012	positive	89	0.19	52%
	negative	19	0.04	11%
	unclear	63	0.13	37%
total		171	0.36	100%

Table 4.45: The evaluation of the uses of *sugar-free* in COCA, according to the positive/negative parameter.

As it can be observed above, in the BNC, *sugar-free* is especially frequent in positive contexts (73% of all uses). Its remaining occurrences (23%) in this corpus were evaluated as unclear. In COCA, the positive contexts are still more frequent than the unclear ones but there is less difference between the two (52% and 37% respectively).

Next, I aimed to examine the contexts in which *sugar-free* is used in more detail. Again, the number of occurrences available in the BNC was too low to generate collocations with the frequencies of or above 5, so I had to lower it down to 2. Table 4.46 includes 11 items used with *sugar-free* in the BNC. Since *sugar-free* was more numerous in COCA, here the search for its collocates could be performed using frequency above 5. The resulting 18 collocations of *sugar-free* in COCA are presented in table 4.47.

	lexical items	frequency	MI
1.	muesli	3	14.79
2.	yogurt	2	12.54
3.	porridge	2	12.37
4.	dessert	2	12.25
5.	gum	2	12.00
6.	chewing	2	11.64
7.	artificial	2	9.54

8.	diet	4	9.47
9.	sugar	2	8.64
10.	fruit	2	8.51
11.	fresh	2	7.81

Table 4.46: The lexical items used with *sugar-free* in the BNC, ordered according to a decreasing MI value.

	collocates	frequency	MI
1.	fat-free	7	11.70
2.	gum	22	11.46
3.	pudding	9	10.85
4.	lemonade	5	10.67
5.	chewing	5	9.60
6.	syrup	6	9.37
7.	yogurt	5	9.12
8.	vanilla	6	8.87
9.	drinks	9	8.79
10.	chocolate	9	8.14
11.	candy	5	7.91
12.	diet	9	7.88
13.	instant	5	7.41
14.	foods	5	7.05
15.	cream	6	6.93
16.	package	5	6.78
17.	drink	6	6.55
18.	Ice	6	6.17

Table 4.47: The collocates of *sugar-free* in COCA, ordered according to a decreasing MI value.

The majority of items in the tables are names of food or drink types, such as *chocolate*, *lemonade*, *muesli*, *pudding* or *yogurt*. They are either used in recipes/listings of products that express no clear evaluation or in positive contexts recommending implementing a healthy, sugar-free diet (as illustrated in (75)) (with a few exceptions where *sugar-free* products are criticised due to being artificially produced).

> (75) Abby also tries to keep a *positive* tone when it comes to food. " I *make sure* I get *healthy* **snacks**, like **sugar-free** Jell-O and Popsicles, " she says, " just to show her that you can snack - you just *have to* make *good choices*. "
>
> COCA/Shape/magazine/2009

The passage above describes the diet choices of Abby and the example she is trying to set for her daughter with regards to nutrition. There are a few expressions that carry clearly positive meanings, for example *positive*, *healthy*, *good choices*. Additionally, *make sure* and *have to* are used to confirm the importance of her attitude and the effort to stay fit and healthy.

Moreover, there are two items in both tables—*chewing* and *gum*—that also appear with *sugarless* and seem to be used in very similar contexts, i.e. dental care and dieting (76).

> (76) CHEW GUM The average piece of sugar-free gum has *only* about 5 calories, and chewing *stimulates* your stomach so it thinks it's receiving food. Chewing also *speeds up* your metabolism slightly, so you'll actually burn 11 more calories per hour than you do just sitting still.
>
> COCA/Vegetarian Times/magazine/2006

The extract above is one of pieces of advice given to people who struggle to lose weight. It argues that gum is helpful and evaluates it as positive, because it is very low in calories, *stimulates* the stomach and *speeds up* the metabolism.

As in the previous section, I also wanted to investigate the lexical items used with *sugar-free* in particular year blocks, using the same parameters as in the previous section, i.e. frequency of 2 or above. The results of my BNC search were presented in table 4.46, as *sugar-free* appears only in the most recent sub-period there. Tables 4.48-4.50 display the results of the COCA corpus search for lexical items used with *sugar-free* in all three of its subperiods. They include up to 25 words, ordered according to a decreasing MI value.

year block	lexical items	frequency	MI
COCA 1990-1996	candies	2	13.76
	gum	2	11.42
	vanilla	2	11.38
	soda	2	11.19
	sodium	2	10.45
	diet	2	9.26
	ice	2	8.21

Table 4.48: The lexical items used with *sugar-free* in the first year block of COCA, ordered according to a decreasing MI value.

year block	lexical items	frequency	MI
COCA 1997-2004	jell-o	3	12.31
	mints	2	12.23
	fat-free	3	11.61
	gum	7	10.93
	lemonade	3	10.90
	iced	2	10.34
	beverage	2	10.08
	yogurt	3	9.74
	chewing	2	9.47
	dessert	3	9.10
	bubble	2	8.60
	chocolate	5	8.52
	drinks	2	7.92
	instant	2	7.33
	goods	2	7.06
	package	2	6.89
	tea	2	6.79
	diet	2	6.78
	ice	2	5.83
	water	2	3.54

Table 4.49: The lexical items used with *sugar-free* in the second year block of COCA, ordered according to a decreasing MI value.

year block	lexical items	frequency	MI
COCA 2005-2012	decaf	2	12.15
	latte	4	12.01
	sodas	3	11.96
	gum	12	11.75
	nonfat	2	11.68
	gelatin	2	11.35
	fat-free	3	11.27
	pudding	6	11.12
	lemonade	2	10.28
	chewing	3	9.98
	syrup	6	9.97
	drinks	7	9.22
	snacks	2	9.09
	vanilla	4	8.86
	yogurt	2	8.46
	soy	2	8.39

	versions	2	7.65
	candy	2	7.58
	diet	3	7.38
	foods	3	7.30
	chocolate	3	7.19
	instant	2	7.04
	drink	4	6.93
	calories	2	6.60
	package	2	6.44

Table 4.50: The lexical items used with *sugar-free* in the third year block of COCA, ordered according to a decreasing MI value.

It is easily noticeable that *sugar-free* has been used with a much wider selection of words from the semantic field of food than *sugarless*, and that this selection continues increasing with each next year block of the corpus. The tables consist of mostly names of various food products or drinks, but they also include *gum* and *chewing*, as did the tables for *sugarless*.

The fact that chewing gums seem to be used with both *sugarless* and *sugar-free* prompted me to further investigate the difference between the two expressions in that context, especially whether, as suggested by its dictionary definition (see §4.5.1), *sugar-free* could be distinguished due to containing artificial sweeteners in the place of sugar. With that aim, I examined available ingredient lists of chewing gums, both *sugar-free* (77) and *sugarless* (78) online. I intended to sample both British and American brands of gums, but there seem to be no British chewing gums that are advertised as *sugarless*. However, admittedly, there seem to be many more American brands producing gums than British ones, in general.

(77)

A. Orbit Wrigley Original Sugar-free[44] (USA) Ingredients: sorbitol, gum base, xyliotol, glycerol, natural and artificial	B. Stride Winter Blue Sugar Free Gum[45] (UK) Ingredients: sorbitol, gum base, mannitol, xylitol, glycerin, natural and

[44] http://www.wrigley.com/global/brands/orbit.aspx#panel-3, accessed 08/03/2015.

[45] http://www.walmart.com/ip/Stride-Winter-Blue-Sugar-Free-Gum-3pk/10294562, accessed 08/03/2015.

flavours, mannitol; less than 2% of: soy lecithin, hydrogenated starch, hydrolysate, acesulfame K, sucralose, colours (red 40, red 40 lake) BHT (to maintain freshness), aspartame.	artificial flavors, aspartame, acesulfame potassium, soy lecithin, blue 2 lake and bht (to Maintain Freshness). Phenylketonurics: Contains phenylalanine.

The extracts above (in 77 A. and B.) show the ingredient lists of two chewing gums that use *sugar-free* in their descriptions. The names of sweeteners are underlined. Both types of gums include a few sweeteners each, mostly artificial (only xylitol is a natural sweetener made from birch trees).

(78)

A. Trident White Sugarless Peppermint Gum[46] (US)	B. Bubble Yum Original Sugarless Bubble Gum[47] (US)
Ingredients: sorbitol, gum base, maltitol, mannitol, artificial and natural flavoring, less than 2% of: acacia, acesulfame potassium, aspartame, BHT (to maintain freshness), calcium casein peptone-calcium phosphate (lactose-free milk derivative), candelilla wax, sodium stearate and titanium dioxide (color).	Ingredients: sorbitol, gum base, maltitol syrup, glycerin, contains 2% or less of natural and artificial flavor, soy lecithin, artificial colour (red 40 lake), maltodextrin, acesulfame potassium, BHT (to maintain freshness), caramel color.

The chewing gums that are called *sugarless* also seem to contain sweeteners. Both Trident Gum and Bubble Yum Gum (in 78 A. and B., respectively) list a few sweeteners within their ingredients, all of which are artificial. Again, they are underlined for the sake of emphasis. This test proves that the use of sweeteners is not restricted to *sugar-free* products, as the *sugarless* ones include them as well.

[46] http://www.drugs.com/drp/trident-white-sugarless-gum.html, accessed 08/03/2015.

[47] http://www.thehersheycompany.com/brands/bubble-yum/original-sugarless-bubble-gum.aspx, accessed 08/03/2015.

The above analysis of ingredients shows that the Chambers 21st Century Dictionary is not entirely correct in claiming that only *sugar-free* products contain sweeteners (see §4.5.1). Additionally, the PDE dictionary definitions of *sugarless* should be expanded to contain the information about possible sweetener ingredient in products instead of sugar as well.

In order to further investigate the difference between *sugarless* and *sugar-free*, I researched regulations on nutrition and health claims about food products. According to the British law, a product can be labelled as *sugar-free*, if it contains less than 0.5g of sugars per 100ml or 100g[48]. The term *sugarless* is not mentioned at all. However, in the US Code of Federal Regulations, *sugarless* and *sugar-free* seem to be used side by side, and without any meaning differentiation, to describe products that consist of less than 0.5g of sugars per serving[49].

Next, I created a collocational network for *sugar-free* searching through the collocation lists of all items from the tables 4.46 and 4.47 above for repeating words. The resulting network is presented in figure 4.7 below.

[48] Nutrition and Health Claims Guidance to Compliance with Regulation (EC) 1924/2006 on Nutrition and Health Claims Made on Foods, Version 2, p.70, November 2011 - https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/204320/Nutrition_and_health_claims_guidance_November_2011.pdf, accessed 15/04/2015.

[49] Code of Federal Regulations, Tittle 21, Volume 2, Revised April 1, 2014, CITE 21CFR101.60, http://www.accessdata.fda.gov/scripts/cdrh/cfdocs/cfcfr/cfrsearch.cfm?fr=101.60, accessed 15/04/2015.

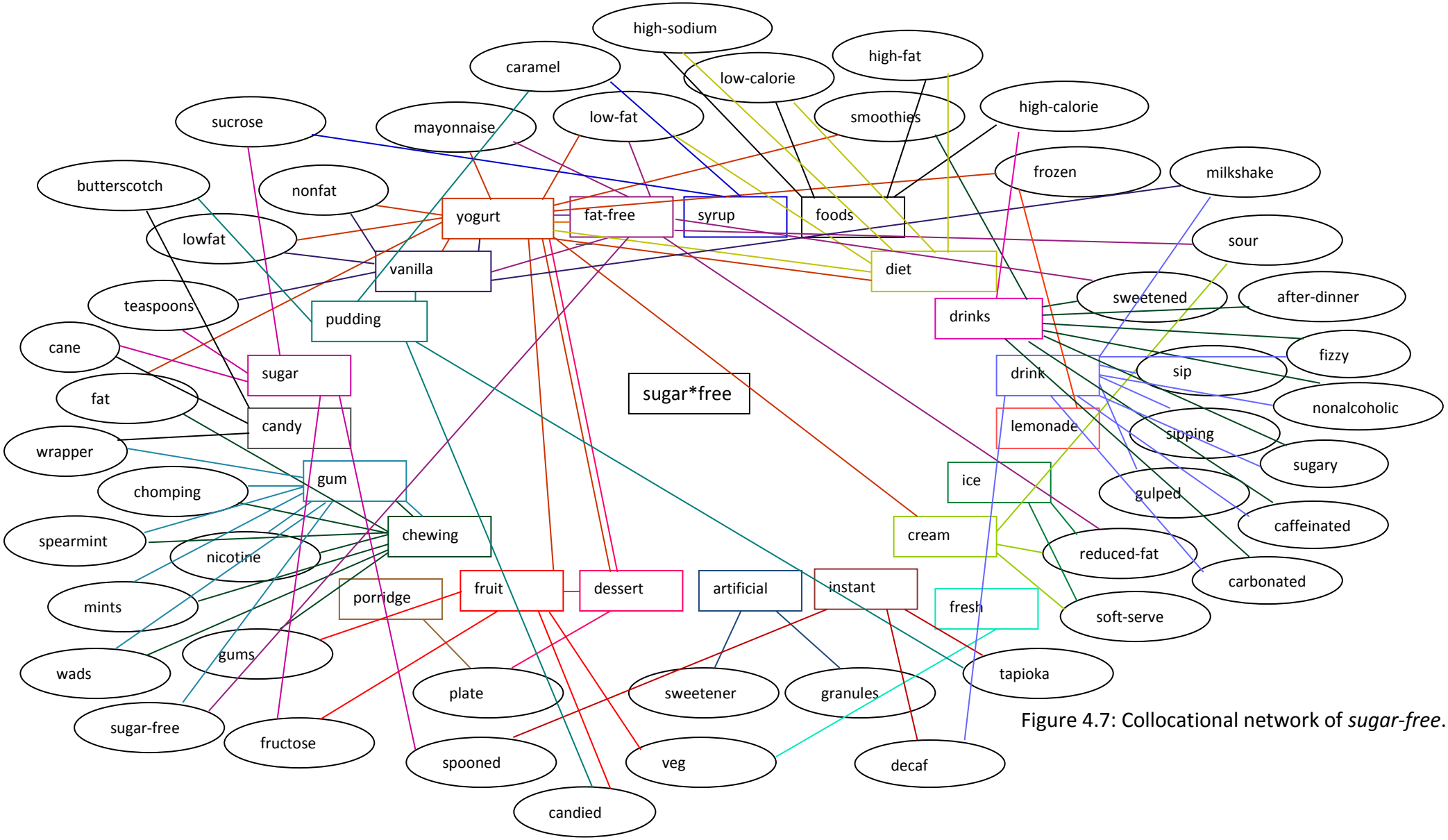

Figure 4.7: Collocational network of *sugar-free*.

As presented above, many of the words from tables 4.46 and 4.47 are related with each other, directly or via their collocates. The network shows that, as it was initially suggested, *sugar-free* is used with many food and drink products, describing diets and snack choices, some of which are related to staying fit and healthy (e.g. *fruit* and *diet*) or just the opposite—unhealthy products and ingredients (e.g. *candy*, *artificial*). Additionally, it seems to share some of the elements that were also observed with *sugarless* with regards to chewing gums. The variety of the expressions that were found to be, on some level, related to *sugar-free* shows how widely used it has become, despite being a recent formation.

As the last element of my analysis, I will investigate the types of texts in which *sugar-free* appeared in both of the corpora. They are presented in tables 4.51 and 4.52 for the BNC and COCA respectively.

corpus and years	variety	genre	frequency	per mil	percentage
BNC 1985-1993	spoken		1	0.10	4%
	written	fiction	-	-	-
		magazine	5	0.69	23%
		newspaper	2	0.19	9%
		academic	-	-	-
		miscellaneous	14	0.73	64%
		total	22	0.23	100%

Table 4.51: The distribution of *sugar-free* in different genres of the BNC.

corpus and years	variety	genre	frequency	per mil	percentage
COCA 1990-2012	spoken		11	0.12	6.5%
	written	fiction	19	0.21	11%
		magazine	98	1.03	57%
		newspaper	40	0.44	23.5%
		academic	3	0.03	2%
		total	171	0.36	100%

Table 4.52: The distribution of *sugar-free* in different genres of COCA.

In the BNC, *sugar-free* is not very frequent but seems to show a tendency towards the magazines (0.69 frequency per million words of this particular genre). In the COCA corpus, *sugar-free* becomes more numerous and spreads to all of the genres

but remains the most frequent in magazines (represented by 1.03 of frequency per million words) and newspapers (0.44).

Examining the uses of *sugar-free* in magazines specifically confirmed that it is used mainly in articles discussing diets, both with regards to losing weight (e.g. in *Shape*) and healthy nutrition (e.g. in *Prevention*). It also seems to be occasionally applied in discussions of dental health (e.g. in *Today's Parent* and *Science News*).

4.5.3 Sugar and ideology

This section will attempt to shed more light on the possible reasons of the coinage and increasing use of *sugar-free* which might be related to the change of the way people view appearance and, as a result, nutrition.

The increase of its frequency in PDE, the types of products it describes as well as the fact that it predominates in magazines (even though *sugarless* also appears in that genre, *sugar-free* is three times more frequent) all suggest that consuming *sugar-free* products is becoming trendy. As it is argued by Behera and Mishra (2013:25), media strongly influence the spread of words and phrases formed to describe innovative ideas and cultural phenomena. Magazines also promote and shape modern beauty ideal which 'has become progressively thinner in body size' (Dawson-Andoh et al. 2010)

Beauty ideals have changed many times in history, motivated by various factors. During times when food was difficult to obtain, larger figures used to be a sign of wealth. Nowadays, the food is more available but most of the elite strive to have slender bodies. (Rhode 2010:7-8). Similarly, muscles used to be "associated with manual labour and proletarian status"; however, today, a toned body is something people desire (Bordo 1993:195). In fact, some go as far as to claim that "the appearance of fit body […] has become a critical determinant of social status and a factor that is self-policed by individuals as they negotiate social positions" (Dworkin and Wachs 2009:12).

Since being slim and toned is a result of hard work for most, it is easier for people with more time and resources to achieve it. It is a sign of "willpower, energy, control over infantile impulse, the ability to 'shape your life'" (Bordo 1993:195). In contrast, fatness seems to be perceived as an indication of the opposite—"laziness,

lack of discipline, unwillingness to conform and absence of […] 'managerial' abilities" (Bordo 1993:195).

Another factor related to the topic of *sugar-free* products is the profit that they bring to their manufacturers. It has been estimated that dietary products are a $74-billion-a-year industry in the United States alone (Wolf 1991:295). The ones on low carbohydrate diet trying to lose weight are not the only targeted customers though; they are also a popular choice for those who are concerned about their sugar intake for other health related reasons, primarily diabetes. The estimate in 2013 was that by 2035, the number of people who suffer from it will grow from 382 to 592 million (Guariguata et al. 2014:137), constituting a large and continuously growing market.

As mentioned above, there is currently a lot of attention paid to fitness and health as well as a lot of research helping people make the right choices to achieve them. Apart from *sugar-free*, there are several other formations with *–free* that express lack of food ingredients believed to be unhealthy by some (for example, *dairy-free*, *fat-free* and *gluten-free*). Most of them are similarly recent as *sugar-free* and are only listed in the OED under nouns they include. They could have been either formed by analogy to each other or as part of a wider process of the development of *–free* (as described in Chapter 2).

Overall, the picture that emerges from my research is of *sugar-free* being used to describe many more food and drink products than *sugarless*, expressing more of a positive evaluation at the same time. It seems to have become a part of health and fitness jargon as a frequent label on dietary products that do not include sugar, which is becoming important nutritional information for an increasing number of people.

4.5.4 Conclusions

This section was devoted to the expressions *sugarless* and *sugar-free*. As in the previous sections, I investigated their dictionary definitions, the prosodies expressed in their contexts of use, words which appear with them in the corpus texts, their shared collocates as well as genres in which they were found in the BNC and COCA.

Following all of these investigations, it seems that *sugarless* is the earlier formation, originally used to express lack of sugar in food products, that has developed to be used especially frequently in the context of chewing gums. *Sugar-free* appeared more recently, together with similar combinations (e.g. *gluten-free*), and it has always been used with various food products.

The use of *sugarless* and *sugar-free* describing chewing gums has been examined to test a claim put forward by the Chambers 21st Century Dictionary (1999:1412), saying that *sugar-free* products contain artificial sweeteners in the place of sugar. I compared available ingredient lists of *sugar-free* and *sugarless* chewing gums, and it turned out that the differentiation between the two expressions cannot be made on this basis, as they both contain sweeteners. However, it is some of the *sugar-free* gums that put the emphasis on natural ingredients and seem to use xylitol, the natural sweetener (usually alongside the artificial ones though).

The fact that *sugar-free* seems to be used in the texts focusing on healthy nutrition is largely the reason why it was found to be more frequently positively evaluated, compared to *sugarless*. Fitness is considered very important and being slim is the modern beauty ideal. It is not easy to achieve though, especially since nowadays we have an abundance of various food products in shops. As a result, manufacturers offer more and more reduced calorie options, such as *sugar-free*.

4.6 Invaluable and objective: *valueless*/*value-free*

The meanings expressed by *valueless* and *value-free* seem to be clearly different. This section attempts to account for those differences, using their dictionary entries (§4.6.1) as well as occurrences in the BNC and COCA (§4.6.2.1 for *valueless* and §4.6.2.2 for *value-free*). I will also provide a brief discussion on *value* referring to its meaning with regards to current ideology in §4.6.3.

4.6.1 *Valueless* and *value-free* in the dictionaries

Valueless appeared in 11 out of 15 consulted dictionaries. It is explained as 'worthless' (Concise Oxford Dictionary of Current English 1951:1414 and Longman Dictionary of the English Language 1984:1665) or in a more descriptive way as 'having no or possessing no value, worthless' (Collins Dictionary of the English Language 1980:1599 and Collins English Dictionary 1991:1694). According to the OED, the first, now obsolete sense of *valueless* ('priceless, invaluable', OED; *valueless*, adj. sense 1) was attested already in 1610. Its main meaning ('having no value; without value', OED; *valueless*, adj. sense 2) came soon after that, in 1616. There is also a most recent third sense that developed a more metaphorical meaning ('lacking moral or spiritual values', OED, *valueless*, adj. sense 3). The examples of use of the three senses are provided below:

(79) *Infinite min of adamant and gold, Valueless*[50] *stones, and unimagined gems.*

OED (*valueless*, adj., sense 1)/Shelley 1820

(80) *On the valueless land north of the ship canal some children, dressed like aviators, are burning a Christmas tree.*

OED (*valueless*, adj., sense 2)/Cheever 1954

(81) *Can a totally corrupt and valueless society somehow discover the spirit to transform itself?*

OED (*valueless*, adj., sense 3)/World Monitor 1992

[50] Original spelling.

Value-free is a more recent formation, dated by the OED for 1916. It was only listed in 2 of the researched dictionaries and is defined as 'not affected by or based on value judgments' (Encarta World English Dictionary 1999b:2055) and 'free from criteria imposed by subjective values or standards; purely objective; cf. *value-neutral*' (OED, *value*, n.; compounds: *value-free*). Its example of use is presented below:

(82) *If religious polemic was to convince, it had to meet the requirements of modern scholarship, supposedly impartial and value-free.*

OED (*value*, n.; compounds: *value-free*)/The New York Review of Books 2002

4.6.2 *Valueless* and *value-free* in the corpora

4.6.2.1 *Valueless* in the corpora

I have examined 57 occurrences from the BNC and 88 from COCA with regards to the evaluation they express. No examples were deleted from the concordances of the two corpora. The results of my analyses are presented in tables 4.53 and 4.54 below.

The uses of *valueless* that I evaluated as 'positive' were applied in contexts expressing a meaning related to that of 'invaluable' and described nouns such as *beauty* and *treasure*. The examples that I classified as 'negative' implied the meaning 'without value' and appeared with other clearly negative words, such as *bogus*, *biased, disadvantage*, *distaste*, *loss*, *untrue*, *violent* and *worthless*. The uses that did not express neither positive, nor negative evaluation, or that seemed to express both, were marked as 'unclear'.

corpus and years	evaluation	frequency	per mil	percentage
BNC 1960-1993	positive	2	0.02	3.5%
	negative	35	0.36	61.5%
	unclear	20	0.21	35%
Total		57	0.59	100%

Table 4.53: The evaluation of the uses of *valueless* in the BNC, according to the positive/negative parameter.

corpus and years	evaluation	frequency	per mil	percentage
COCA 1990-2012	positive	1	0.002	1%
	negative	53	0.11	60%
	unclear	34	0.07	39%
Total		88	0.18	100%

Table 4.54: The evaluation of the uses of *valueless* in COCA, according to the positive/negative parameter.

As displayed above, *valueless* was found expressing mainly negative and unclear meanings, with the negative (represented by 61.5% in the BNC and 60% in COCA) almost twice as frequent as the neutral (35% and 39%). Its positive uses were extremely infrequent (only 3.5% and 1%).

Next, I wanted to examine the collocates of *valueless*. It was not frequent enough in either of the corpora to follow the parameter of frequency of at least 5 so I searched for lexical items used with *valueless* 2 times or above. Table 4.55 shows the results of this search in the BNC and table 4.56 in COCA.

corpus and years	lexical items	frequency	MI
BNC 1960-1993	deemed	2	8.67
	completely	3	6.68
	become	7	6.06
	otherwise	2	6.04
	apart	2	5.87
	became	3	5.29
	money	3	4.55
	almost	2	4.23
	once	2	3.95
	things	2	3.80

Table 4.55: The lexical items used with *valueless* in the BNC, ordered according to a decreasing MI value.

corpus and years	lexical items	frequency	MI
COCA 1990-2012	worthless	2	9.78
	rendered	4	9.71
	wholly	2	9.10
	aesthetic	2	7.89
	civilian	2	7.13
	id	2	6.99
	virtually	2	6.54

	relatively	2	5.88
	becomes	2	7.74
	completely	2	5.54
	except	2	5.34
	land	3	5.11
	almost	4	4.60
	schools	2	4.49
	become	2	3.64
	talk	2	3.56

Table 4.56: The lexical items used with *valueless* in COCA, ordered according to a decreasing MI value.

First of all, there are a few words in both tables that express the extent to which certain objects, people or concepts are *valueless*, such as *completely*, *almost*, *wholly*, *relatively* and *virtually*, all of which suggest a considerable degree, but they also seem to involve some amount of surprise over the fact that a particular thing was found valueless (see (83) and (84) below).

> (83) But a share is something far more than a mere contractual right in personam. This is sufficiently *clear* from the rules relating to infant shareholders, who are liable for calls on the shares unless they repudiate the allotment during infancy or on attaining majority, and who can not recover any money which they have paid unless the shares have been **completely valueless**.
>
> BNC/Principles of Modern Company Law/academic/1985-1994

The above passage discusses the rules according to which shareholders are allowed to act on their shares. There is not much clear evaluation, as it is an academic text, but the fact that what they own could be 'completely valueless' seems very judgmental.

> (84) And many buyers *doubtless appreciated* the fact that academic art, owing to its *poor regard* in the West, was *fantastically cheap*: by the 1960s even Bouguereau's paintings, which in 1900 had been the most *costly* in the world, were **relatively valueless**.
>
> COCA/Atlantic Monthly/magazine/2000

This extract contains many words expressing a positive evaluation of *valueless*, which is here suggested to describe 'inexpensive' and, as such, desirable buys. The

positively evaluated expressions include *appreciated* and *fantastically cheap*, additionally supported by a certainty parameter in *doubtless*.

The second group of words that seem to be characterised by similar meanings and uses, are *rendered*, *deemed*, *become*, *becomes* and *became*. They suggest that something is assumed *valueless* and usually express negative evaluation of that fact (see (85) and (86 below)).

> (85) Such i*deal* conditions contrast sharply with the actual experiences of' war communism': money **became valueless** because of the *disappearance of goods*, wages were replaced by rations -- the rations of *abject poverty not abundance* -- prices became imaginary because money no longer had any *value*, and paper money was issued by keeping the printing presses working day and night, amounting to hyper-inflation!
>
> BNC/Bukharin's Theory of Equilibrium/miscellaneous/1985-1994

The above example describes the financial situation during what is called the 'war communism'. The evaluation associated with *valueless* is negative, as it is used in the context of money being worthless. The expressions that support negative evaluation are, for example *disappearance of goods* and *abject poverty*, but also *ideal* and *abundance*, which are only used to contradict the actual state.

> (86) Further, they were *critical* of the general failure of CSA researchers to take into account confounding variables that could be responsible for the CSA-*maladjustment* link. They concluded their methodological critique by commenting that many of these studies " are so *severely vulnerable* to selection *bias*, information *bias*, and *lack of consideration* of confounding variables that they are **rendered** almost **valueless** " (p. 378).
>
> COCA/Journal of Sex Research/magazine/1997

This quote also expresses a clearly negative evaluation of *valueless* used in the review of certain studies. It is supported by phrases used in its immediate context, such as *severely vulnerable*, *bias* and *lack of consideration*.

The last important group are words expressing possessions, such as *land*, *money* and *things*. In their case, *valueless* seems to be used in either neutral (87) or negative (88) contexts of items that are not worth much.

(87) If it is any consolation, the whole question of arrangement seems just as much a *problem* for people with *enviably rare* and *valuable* collections as it is for those with *hardly enough* to call a collection of anything. And the same thing applies to people who have collections of quite **valueless things**: baskets, keys, hats or *whatever*. How do you arrange what you have to its *best advantage*? And where is the *bes*t place to display these objects?

BNC/Home design/miscellaneous/1985-1994

The passage above includes a few evaluative expressions when referring to both *valuable* objects (such as *enviably rare*) and to the *valueless* ones (such as *whatever*). However, the main point is that it suggests that the *valueless things* deserve discussion just as much as the valuable ones do, which makes the evaluation of the context neutral, here marked as 'unclear'.

(88) David Lucas purchased two oceanfront lots on the South Carolina shore for approximately $ 1 million. Two years later, South Carolina adopted its Beachfront Management Act to prevent *hazardous* development along the face of the ocean beach exposed to *erosion* and *flooding*. This new law, the trial court found, made Mr. Lucas's **land** " **valueless**. "

COCA/Christian Science Monitor/newspaper/1992

This passage explains the effect a new law had on the value of land in an area that used to be considered valuable before the law had been introduced. It uses evaluative words such as *hazardous*, *erosion* and *flooding* when referring to the ocean beach and its developments, but it does not seem to comprise of a clear evaluation of *valueless*.

Aiming to further investigate the relations between the lexical items used with *valueless*, I prepared its collocational network using lexical items from tables 4.55 and 4.56. The resultant network is presented in figure 4.8 below.

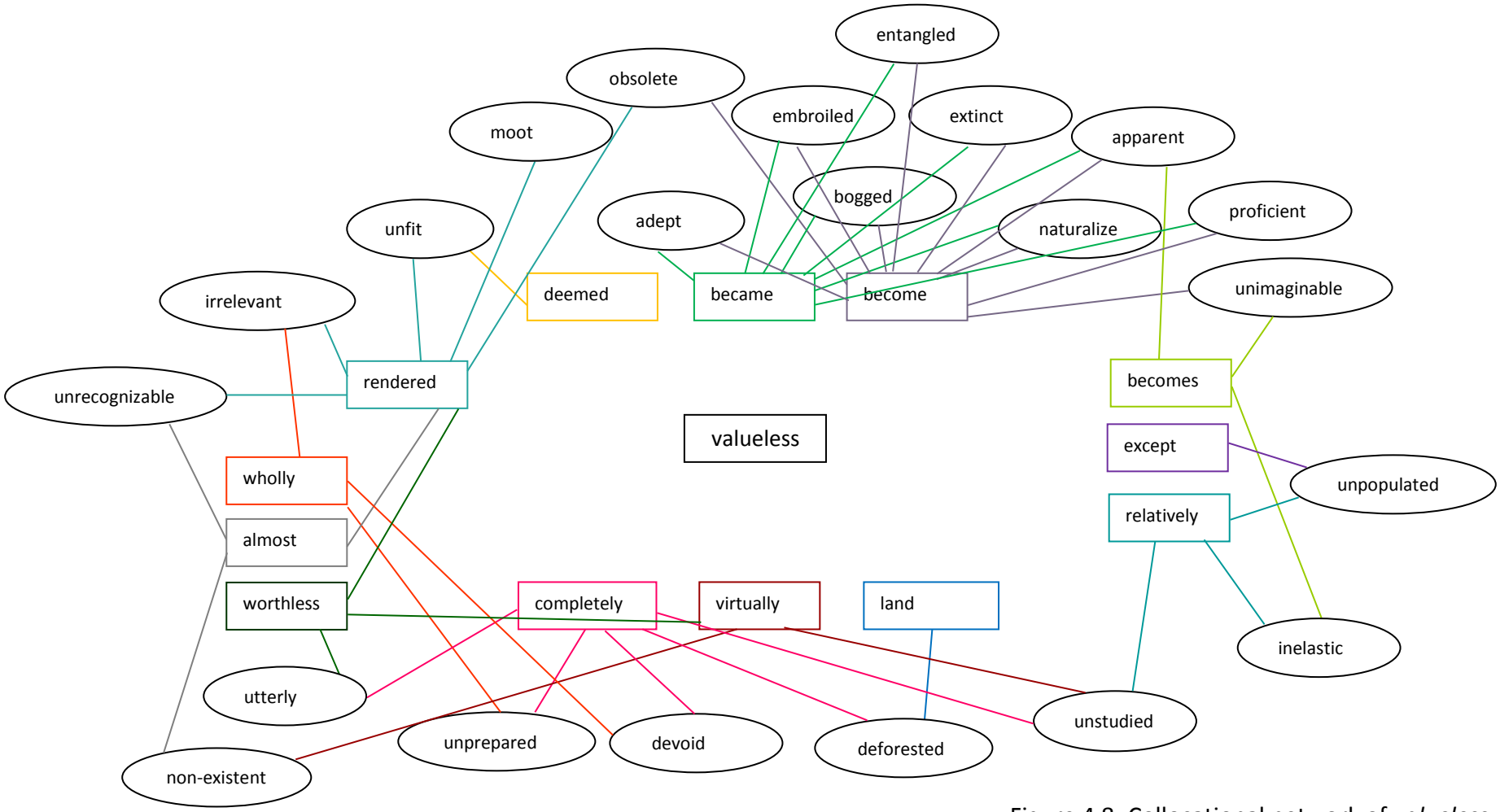

Figure 4.8: Collocational network of *valueless*.

As presented above, even though they were not characterised by high frequencies, about half of the lexical items listed in the tables are linked with each other, mainly on a secondary level. The words that share the highest number of collocations are different forms of the verb *become*. There also seems to be a striking number of secondary collocates that consist of negative prefixes, such as *inelastic*, *unstudied*, *unpopulated*, *unimaginable*, *unfit*, *irrelevant*, *unrecognizable*, *non-existence*, *unprepared* and *deforested*, most of which express negatively evaluated meanings.

As the last factor of my analysis, I discuss the genres in which the occurrences of *valueless* were distributed in both corpora. The results of the BNC examination are presented in table 4.57 and the results of COCA in table 4.58 below.

corpus and years	variety	genre	frequency	per mil	percentage
BNC 1960-1993	spoken		-	-	-
	written	fiction	7	0.44	12%
		magazine	1	0.14	2%
		newspaper	4	0.38	7%
		academic	21	1.37	37%
		miscellaneous	24	1.27	42%
		total	57	0.59	100%

Table 4.57: The distribution of *valueless* in different genres of the BNC.

corpus and years	variety	genre	frequency	per mil	percentage
COCA 1990-2012	spoken		11	0.12	12%
	written	fiction	12	0.13	14%
		magazine	12	0.13	14%
		newspaper	16	0.17	18%
		academic	37	0.41	42%
		total	88	0.19	100%

Table 4.58: The distribution of *valueless* in different genres of COCA.

As presented in the tables, *valueless* appears the most frequently in the academic genre in both corpora (1.37 normalised frequency in the BNC and 0.41 in COCA) as well as newspapers (0.17), fiction (0.13) and magazines (0.13) in COCA.

I also attempted to investigate the applications of *valueless* in particular genres; however, my examination did not reveal any tendencies.

4.6.2.2 *Value-free* in the corpora

I analysed the evaluation of 34 uses of *value-free* in the BNC and 115 uses in COCA, the results of which are presented in the tables 4.59 and 4.60 below. There were no occurrences of *value-free* that had to be deleted from the concordance lists.

I classified the uses of *value-free* as 'positive' when they were used in the vicinity of other positive expressions, such as *desirable*, *essential*, *expertise*, *fair*, *impartiality*, *maximization*, *objectivity* or *unbiased*. In turn, I evaluated its uses as 'negative' when they appeared with words that carry negative meanings, such as *amoral*, *crippled*, *disinterested* or *reject*.

corpus and years	evaluation	frequency	per mil	percentage
BNC 1960-1993	positive	7	0.07	20.5%
	negative	2	0.02	6%
	unclear	25	0.26	73.5%
Total		34	0.35	100%

Table 4.59: The evaluation of the uses of *value-free* in BNC, according to the positive/negative parameter.

corpus and years	evaluation	frequency	per mil	percentage
COCA 1990-2012	positive	24	0.05	21%
	negative	13	0.03	11%
	unclear	79	0.17	68%
Total		116	0.25	100%

Table 4.60: The evaluation of the uses of *value-free* in COCA, according to the positive/negative parameter.

As displayed in the tables above, *value-free* is mainly used in unclear contexts (represented by 73.5% in the BNC and 68% in COCA) which do not express any clear evaluation. It appears moderately frequently carrying positive meanings (20.5% and 21%). The negative contexts of use of *value-free* were the least frequent (with 6% and 11%).

The next step of my analysis is the examination of the collocates of *value-free*. However, similarly to *valueless*, it was not frequent enough to focus on the items that were repeated at least 5 times. As a result, I generated lists of lexical items used with *value-free* 2 or more times. Table 4.61 presents the list of lexical items

generated in the BNC. Table 4.62 displays the first 25 lexical items generated in COCA.

corpus and years	lexical items	frequency	MI
BNC 1960-1993	interest-free	2	13.20
	neutral	2	9.26
	things	2	4.54

Table 4.61: The lexical items used with *value-free* in the BNC, ordered according to a decreasing MI value.

corpus and years	lexical items	frequency	MI
COCA 1990-2012	objectivity	5	11.05
	judgments	4	8.98
	neutral	3	8.13
	inquiry	3	7.93
	science	21	7.86
	objective	4	7.67
	operate	2	6.77
	definition	2	6.44
	zone	2	6.23
	manner	2	6.12
	techniques	2	6.11
	notion	2	6.11
	scientific	2	6.09
	authority	2	5.32
	basis	2	5.30
	modern	2	5.30
	environment	2	4.77
	social	6	4.68
	political	6	4.62
	approach	2	4.48
	language	2	4.47
	thinking	2	4.15
	based	3	3.86
	education	3	3.86
	means	2	3.82

Table 4.62: The lexical items used with *value-free* in COCA, ordered according to a decreasing MI value.

The lexical items found to be used with *value-free* seem to be mainly referring to research within various academic disciplines. The clearest examples of that are, for

instance *inquiry*, *science*, *definition*, *techniques*, *notion*, *scientific*, *approach* and *thinking*. Most of those are used in neutral contexts, here classified as 'unclear' (such as in (89)); but there are also some that express positive evaluation (as in (90)) with regards to the *value-free* concepts.

> (89) In his early work, Boorse distinguished between *disease* and *illness*. The former concept, he argued, could be purely theoretical, given a **value-free definition** based on the concept of *malfunction*, and grounded in the science of pathology. *Illness*, for Boorse, was a *value-laden* practical concept intertwined with cultural criteria for administering health care.
>
> COCA/Monist/academic/1999

The above extract discusses the understanding of the terms *disease* and *illness*, which in general carry negative meanings but here seem to be used in a very neutral and academic way, as seems to be the case with the whole passage.

> (90) Critics of the Woburn health study argued that the study was *biased* by the use of volunteer interviewers and by prior political goals. Those critics *upheld* the notion of a **value-free science** in which knowledge, theories, techniques, and applications are devoid of *self-interest* or *bias*.
>
> COCA/Environment/academic/1993

This quote is from a review of a particular study, criticised for being *biased*. There are some elements of negative evaluation, all of which are directed towards the chosen methodology which is contrasted with the *value-free science*, presented as positive. The positive evaluation of this concept is supported with by the expression *upheld* and contrasted with the motivations that the study followed instead, including *bias* and *self-interest*.

Three words appearing in the two tables deserve a separate mention here, even though they are also loosely related to the group discussed above. Those are *neutral*, *objectivity* and *objective*, the meanings of which seem very close to the meaning of *value-free* itself. An illustration of their use is given in (91).

> (91) Interest seems to be a concept which is entirely theoretical and context-free. It is a phenomenon which occurs in a social and economic vacuum. It is presented as a **neutral** and **value-free** mathematical construct.
>
> BNC/Mathematics, Teachers and Children/academic/1985-1994

The extract above is another example of 'unclear' or neutral use of *value-free*. It explains the concept of *interest* as a scientific construct, mentioning *neutral* and *value-free* together, emphasising their shared meaning.

Again, as for previous combinations, I created a collocational network for *value-free* using lexical items from tables 4.61 and 4.62. The network is presented in figure 4.9 below.

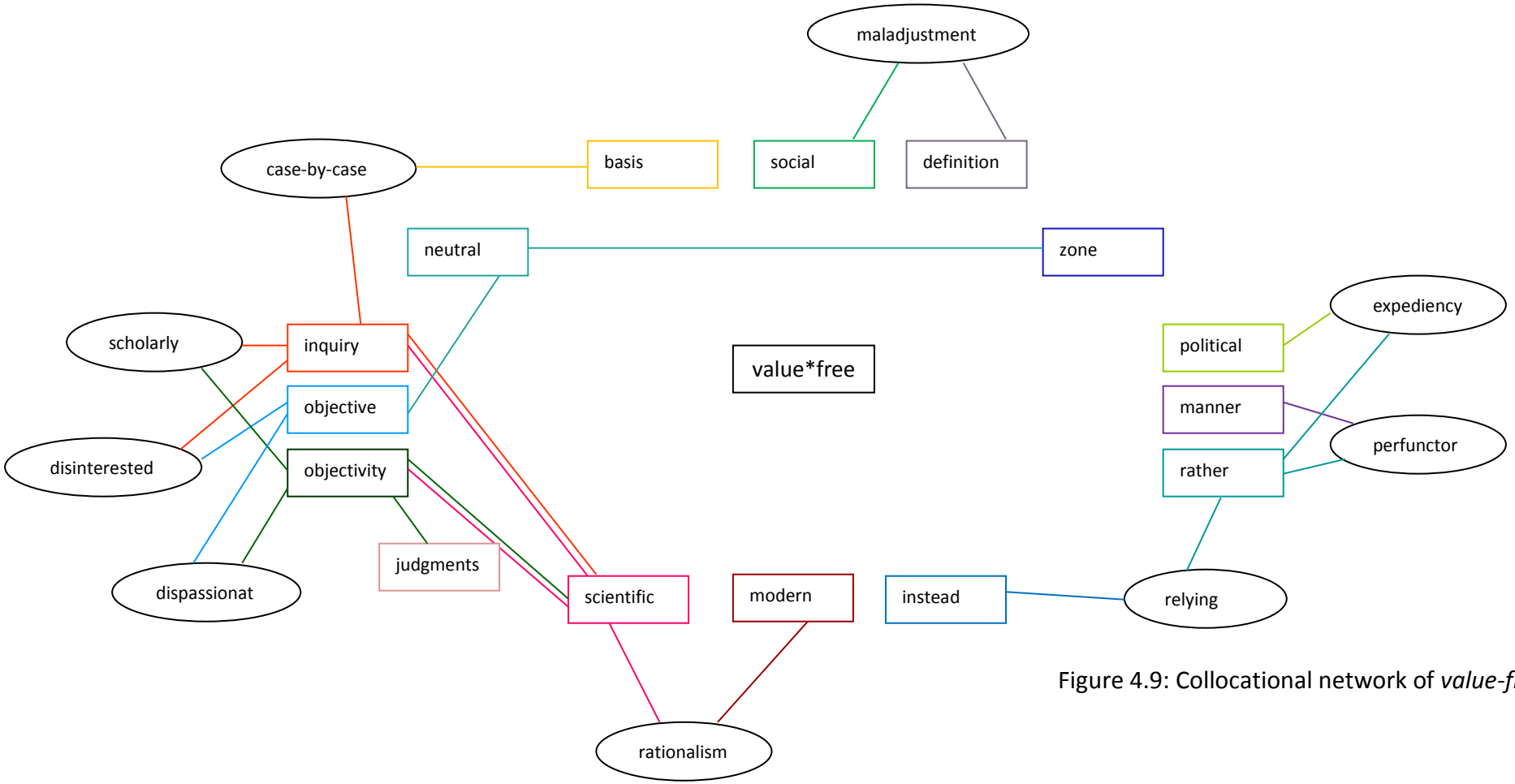

Figure 4.9: Collocational network of *value-free*.

As the collocational network shows, there are some links between half of the lexical items from tables 4.61 and 4.62, but they are not very numerous. The majority of their associations are related to scientific research (such as *inquiry*, *definition*, *judgments*, *scientific* as well as *objective*, *objectivity* and *neutral*), confirming the meaning groups discussed above. There does not seem to be any clear evaluation, positive nor negative, expressed by the *value-free* network.

Finally, I will discuss the distribution of *value-free* in the particular genres. Tables 4.63 and 4.64 below show the results of genre examinations in the BNC and COCA respectively.

corpus and years	variety	genre	frequency	per mil	percentage
BNC 1960-1993	spoken		-	-	-
	written	fiction	1	0.06	3%
		magazine	1	0.14	3%
		newspaper	-	-	-
		academic	19	1.24	56%
		miscellaneous	13	0.75	38%
		total	34	0.35	100%

Table 4.63: The distribution of *value-free* in different genres of the BNC.

corpus and years	variety	genre	frequency	per mil	percentage
COCA 1990-2012	spoken		6	0.06	5%
	written	fiction	6	0.06	5%
		magazine	14	0.15	12%
		newspaper	4	0.04	3%
		academic	86	0.94	74%
		total	116	0.25	100%

Table 4.64: The distribution of *value-free* in different genres of COCA.

As presented in the tables above, *value-free* appears predominantly in the academic genre (1.24 frequency per million words in the BNC and 0.94 in COCA) which is strongly related to its meaning (see §4.6.1) and uses. It is very infrequent in any other genres.

Investigating its appearances in the academic texts in more detail revealed that it is characterised by two slightly different applications. Namely, it can be used to describe academic research with regard to its objectivity (e.g. in *Academic Questions* and *Social Research*), but also the quality of being ethically neutral, especially in social sciences (e.g. in *Perspectives* and *Political Sciences*).

4.6.3 Value and ideology

As presented above, *valueless* and *value-free* express unrelated meanings, as *value* itself is used in different senses in the two combinations. *Valueless* is related to the lack of monetary worth of something. "[M]oney reigns supreme" (Veillard 1985:191) and valueless things are disregarded. The constant strive for more advanced and valuable products "has undoubtedly improved the standard of living in the developed world", but it has also created a lot of aspirations, some of which are difficult to achieve (Nock 2014:10).

Previous studies prove that some people consider valuable possessions and their acquisition "essential to their satisfaction and well-being in life" (Richins and Dawson 1992:304). The desire for valuable possessions reaches every social class and age group. We live in an era of many technological inventions, such as computers, tablets and new generation phones which are available to almost anyone. It has been noted, in fact, that modern society is characterised by an increasing dependence on technology, caused by and further encouraging materialism (Dunn and Castro 2012:353).

This quest for material things reaches such levels that it has been reported as a factor in 'lootings' that took place during the 2011 riots. As Newburn et al. (2014) point out, some people "were simply taking advantage of the disorder to secure mundane material goods that their disadvantaged socio economic position meant they often found it difficult to afford" (Newburn et al. 2015:1002).

Value-free refers to lack of subjective judgement. As mentioned above in §4.6.2.2, it was found especially frequently in academic texts. There were a few factors that played an important role in the development of value-free science.

The earliest of the consulted sources mentions that progressive social scientists started realising the importance of value-free research from the beginning of the twentieth century. As noted by Furner (1975), that was when they acknowledged "effective, broad-gauged social criticism required both a systematic program of organized research and the appearance of objectivity" (Furner 1975:12).

There are also two historically significant movements that are linked to the rise of objectivity in science. First, as suggested by Harding (2015), "[a] distinctive standard for maximizing objectivity in research emerged from feminist discussions"

in the 1970s and 1980s (Harding 2015:26). The rise of feminism proved to be especially influential within the fields of biology and social science, which had previously been dominated by "sexist and androcentric assumptions and practices" (Harding 2015:26).

Second, some sources suggest that scientists originally proclaimed value-free research to "defend and protect their disciplines from being censored by politicians, used by the military or held hostage to national industries demanding practical results" (Pressman 1993:554). The political pressures were believed to compromise scientific integrity, restrict research opportunities and risk for the findings to be used to manipulate the public.

The topic is still current, and some scientists say it is becoming increasingly important. Padovani et al. (2015) point out topics that are particularly salient in present-day public debates, for example the validity of "medical research when it is funded by pharmaceutical companies" and its link to the production and sales of new medicines (Padovani et al. 2015:1-6). Another frequently mentioned example are climate studies for which science should be "a source of neutral information when difficult policy decisions need to be made" but the the results of which tends to be influenced by industries and their profits (Jukola 2016:89).

4.6.4 Conclusions

In this section, I examined the differences between the combinations *valueless* and *value-free*. I began with the review of their definitions in the available dictionaries. Then, I examined the evaluation of *valueless* and *value-free* occurrences in the corpora, the lexical items with which they are used and the genres in which they appear.

Valueless means 'worthless' and is predominantly used in 'negative' as well as 'neutral' contexts. It was found to be used with lexical items that denote objects considered to be without value (e.g. *land*) as well as ones that express the extent to which something is believed to be worthless (e.g. *completely*). The collocational network of *valueless* shows many links on the secondary level, proving that the words generated as collocates are not random, despite their low frequencies of use. *Valueless* was found in academic and miscellaneous genres.

The definition of *value-free* is very different to the one of *valueless* and seems to be associated with the meaning of 'objective'. It is predominantly used in the 'unclear' contexts and occasionally in 'positive' ones. The lexical items with which it appears are related to research (e.g. *definition*) and its objectivity (e.g. *neutral*). Its network shows fewer links compared to the ones recorded for *valueless*, but it confirms that *value-free* is a concept, or even attitude related to science. It is used predominantly in the academic genre.

4.7 Concluding remarks

The main aim of this chapter was to uncover the differences between 5 counterpart pairs ending in *–free* and *–less*. It also attempted to account for possible meaning relations between *–free* and *–less* in general as well as reasons motivating the formation of the combinations, which are more recent than the derivatives with *–less*.

The analysis of uses of the selected pairs in corpus revealed that *–free* and *–less* differ with regards to meanings they express. However, that difference depends also on the bases which they are attached. In general, it was observed that the combinations with *–free* tend to be used in contexts more frequently evaluated as positive, while the derivatives with *–less* in ones evaluated as negative. A smiliar tendency was observed in their collocational networks.

Since the investigated combinations with *–free* were formed to mark lack of what was already expressed by the derivatives with *–less*, their creation was most likely motivated by the changes in perceptions of their nominal bases. That was found to be the case, for example, in *child-free*, which shows that certain people choose to live their lives without children and want the society to accept it. Another example, *pain-free*, emphasises that nowadays pain is a lot easier to manage and relieve than in the past and has, in fact, become simply an inconvenience. However, there was also a case where the counterparts did not display much relation, as with *value-free* and *valueless*, formed with different meanings of their base and expressing distinct meanings as a result.

Chapter 5. Concluding remarks

This thesis provided a diachronic examination of the development of *–free* and revealed that it is undergoing grammaticalisation to an adjectival suffix. Additionally, it accounted for the difference in meaning and use of 5 pairs ending in *–free* and *–less*, considering the evaluation of contexts in which they are used, their collocates and collocational networks, distribution in corpus genres as well as ideological background for their formation. The study was corpus-based, but it also used dictionary entries of the investigated combinations to ensure an examination of both established and newly emerged language uses. The remaining part of this chapter will review and interpret my findings.

My analysis of the meaning development of the combinations with *–free* presented in Chapter 2 (§2.2) traced the original formations back to the OE expressions related to exemptions from various tribute related payments. The combination that seems to have initiated extension of their meaning is *scotfreo* which evolved to relate to both lack of tribute and avoiding punishment or harm. This has opened the door to more combinations with a similar meaning, i.e. 'lack of something universally acknowledged as harmful', which extended also to 'lack of something subjectively considered undesirable' (both recorded from EModE). The last meaning development, i.e. the most generalised 'without' appears in LModE and continues to PDE, with all previous meanings still present.

With the aim to further investigate the increase of the number of combinations with *–free* in PDE, I focused on their structural development in Chapter 2, §2.3. The framework that enabled me to examine the influence of the adjective *free* on the development of the combinations with *–free* by tracing the changes in their uses in LModE and PDE is the Pattern Grammar (especially the adjective focused part in *Grammar Patterns 2: Nouns and Adjectives* Francis, Hunston and Manning 1998). To aid my analysis, I also investigated the syntactic functions (according to Huddleston and Pullum 2002) in which they are used in both periods. The results revealed that the recent increase in the combinations with *–free* is

connected with a decrease of use of phrases *free from/of*, both used in the predicative complement function (i.e. *v-link free from/of* and *v-link COMB with free*).

Additionally, I compared the genres in which the adjective *free* and the combinations with *–free* tend to be used as well as the gender and age of authors who wrote texts in which they appear. The results showed that both the adjective *free* and the combinations were the most frequent in advertisement texts in PDE. However, *free* is used to describe a variety of items, while the combinations with *–free* to advertise food and drink products. I also found that while male and female authors used the adjective *–free* almost equally across all of their age groups, the combinations were originally only used by male speakers until PDE, most frequently by authors aged between 35 and 44 years. Language change tends to be led by men if it concerns lexical items used in professional contexts (see Nevalainen and Raumolin-Brunberg 2003), in the case of the original combinations with *–free*— exemptions from payments for services.

Chapter 3 was devoted to the analysis of the development of the combinations against the traditional view on the theory of grammaticalisation. It revealed that they already display six of the parameters (Lehmann 1985) and principles (Hopper 1991), i.e. *attrition*, *paradigmaticisation*, *condensation*, *coalescence*, *layering* and *persistence* (see §3.2). It also discussed further changes observed in the combinations with *–free* with regards to stress placement, pronunciation weakening and spelling of the combinations. Next, I examined previous studies on adjectival suffixation (Van Goethem 2011, Bauer 2007 and Welna 2000) that successfully implemented and developed those frameworks to investigate other cases of grammaticalisation of adjectives into suffixes (see §3.3). I adapted their methodologies to analyse the development of *–free* and created a cline and schema of the grammaticalisation of *–free* (see §3.4).

According to my analysis, the combinations with *–free* originate from an OE compound pattern expressing exemptions from payments (e.g. *tollfreo*), the second member of which was an adjective. By means of semantic analogy new compounds were formed, extending their use to denote exemption from regulations and avoiding what was generally considered harmful (e.g. *scotfreo*). The uses extended

further, resulting in the second member of the compound losing semantic focus. The productivity of the compound significantly increased, aided by phrases *free from/of* (e.g. *free from care* and *carefree*). The meaning extended to express lack of things subjectively considered undesirable (e.g. *sugar-free*) and generalised to form combinations indicating lack of something neutral (e.g. *nuclease-free*). Currently, *–free* is in its final stage of grammaticalisation, in which it is undergoing decategorisation to an adjectival suffix.

After establishing that *–free* is becoming a suffix used similarly to *–less*, I focused on 5 pairs i.e. *carefree*/*careless*, *child-free*/*childless*, *pain-free*/*painless*, *sugar-free*/*sugarless* and *value-free*/*valueless*, attempting to account for meaning differences and similarities between them as well as possible meaning relations between their PDE counterparts in general. The choice was motivated by their presence in dictionaries and corpora as well as the variety of meaning relations between the two formatives expressed by the pairs.

My analyses of the pairs were both quantitative and qualitative and included examinations of available dictionary definitions as well as corpus based investigations such as positive/negative parameter evaluation (Hunston and Thompson 2000), studying their collocate lists, creating collocational networks (following Williams 1998 and Baker 2006) and examinations of genres in which the members of the pairs appear in the corpora. Since some of those methods are also used by the CDA (see §4.1.3), each of their sections includes a brief discussion of their relationship with current ideologies as well as possible reasons for the creation of the combinations with *–free*.

Careless and *carefree* are nowadays semantically very different even though historically both of their meanings were expressed by *careless*. Since then, the meaning of *careless* specialised to describe a negatively evaluated state related to lack of care and skill with regards to social situations, controlling vehicles, discarding of dangerous materials etc. The meaning expressed by *carefree* is associated with positive evaluation. It is mainly used to describe a light hearted attitude and cheerful times.

Childless was the only adjective to describe people who do not have children until PDE, mainly used in relation to lack of ability to conceive and appearing especially in fiction and academic texts. However, recently the concept of a happy family has developed and so did the terminology to define it. *Child-free* started to be used to denote lack of children as a result of a lifestyle choice or just for a particular period of time. It was found to be positively evaluated, frequently quoted in magazines and newspapers.

Painless and *pain-free* seem synonymous in their basic meaning i.e. 'without pain'. However, not only does *pain-free* better expresses modern positive attitude towards lack of pain, but also, *painless* was found to be developing a more metaphorical and increasingly frequent use related to lack of inconvenience.

Another pair that share some of their meanings are *sugarless* and *sugar-free*, as they are both applied to describe chewing gums that do not contain sugar. *Sugarless* was coined earlier and remained restricted to that context, but *sugar-free* has evolved to describe a lot more food and drink products and was found to express a much more positive evaluation compared to *sugarless*.

Valueless and *value-free* display the most significant semantic difference as their nominal base is used expressing different senses. In *valueless*, *value* refers to 'worth' and is commonly applied in negatively evaluated contexts describing worthless possessions. *Value-free* is concerned with lack of subjective opinions and appears especially in scientific texts, with regards to their objectivity.

The pairs discussed in this study show the complexity of the relationship between *–free* and *–less*. Not only were they found to express different aspects of 'without' with regards to evaluation, which tends to be positive for the combinations with *–free* and negative for the derivatives with *–less*. Their meaning relationship depends also on the base to which they are attached, especially since the base may express different meanings (e.g. *valueless* 'without monetary value' and *value-free* 'without value judgement').

All of the derivatives with *–less* are more established and recorded before the combinations. My research also revealed that the reasons for the development

of the counterparts ending with *–free* tend to be significant changes in the perception of the concepts expressed by their nominal bases (see, for example, §4.3.3 for *child-free* and §4.5.3 for *sugar-free*).

The present study is not without limitations. The development of the combinations with *–free* could be further investigated using Web-Corp internet corpus. Also, their evolution could be assessed using less traditional approaches to grammaticalisation (e.g. constructional approach) that were not applied here.

Finally, this thesis raised questions that can provide many opportunities for future research. The combinations with *–free* are most probably going to become even more frequent. It would be worth investigating whether their meaning generalisation continues as well as if their spelling and stress patterns change as the final stage of grammaticalisation. With regards to the relationship between counterpart pairs in *–less* and *–free*, I accounted for 5 that were the most represented in dictionaries as well as the BNC and COCA. It would be interesting to return to that topic in the future and see if the tendencies discussed here continue in other pairs.

Appendix

Sample quotations of all types of the combinations with *–free*

1. Ic wille þæt þæt cotlif Leosne..ligge nu ðider inn to ðæra muneca fodan mid eallum ðæra ðingum þe þær to hyreð..**scotfreo**[51] & **gafolfreo** on scire & on hundrede. (OED; *shot-free*, adj., sense 1)
   [I wish for Leosne cottage/village to render homage in food towards the monastery with all the arrangements scot and tax free within the province and the political district.][52]

2. [Ic kyþe eow þæt ic wille] ðet þæt plott landes æt Clæigate, l[i]gge nu heonon forð inn to Sancte Petre æt Westmynstre, mid ælc ðere þing[a þæt þarto birð],..**scotfri** & **gafollfri** of [scire & hundrede, of gelde] & of dænegelde & of ealles cynnes ðingæ. (OED; *shot-free*, adj., sense 1)
   [[I declare my wish] for the territory of Claeigate to render homage in live stock to the village of Saint Petre at Westminister, scot and tax free [of province and political district payment].]

3. Hugh le Norreis..grants..the fourth part of his land..and] **hoperfre** [and] **tolfre** [in his mills of Hage]. (MED; *hopper(e*, n., sense b))

4. [They shall be] **wrecfri**, **wittefri**, **lestagefri**..**luvecopfri**. (MED; **lo͝ve-co͞p-fr**ī, adj.)

5. Concedo predictum et heredes suos **rumfre** post bladum meum. (OED; *room-free*, adj.)
   [I agree for his heirs to store corn roomfree.]

6. [Lessors..grant to John Kenane..the] Polmyll [without the walls of Dublin and appoint him miller thereof for life at a stipend of the sixth measure of malt..grantors to be] **Stewynfre** [and] **tolfre** [of moltures and all grains ground at the mill]. (MED; *steven(e*, n., sense 3)

7. Dat per annum de **witefe** viij d. (MED; *wite*, n.2, sense c))
   [Give 8 pence per year wite-free.]

8. Quod habeant infangenethef et quod sint **wrecfry** et **wittefry** et **lestagefry** et **lonecopfry**. (MED; *lestage*, n.)
   [That they may have and that they are thieves caught wreck-free and witte-free and lestage-free and lovecopfree within one's demesne.]

9. Almes-houses for twenty poore widowes to dwell in **rent free**. (OED; *room-free*, adj.)

[51] The emphasis

[52] All of the translations given below quotations are mine.

10. The **post free** price is 7s.2½d. (OED; *post-free*, adv. and adj.)

11. I have seen the corridors of the House and Senate building so chocked with **postage-free** mail bags that you had to worm your way through. (OED; *postage-free*, adv. and adj.)

12. Let him be **Gallows-Free** by my consent. (OED; combination of *gallows*, n.)

13. Would somebody would challenge mee to fight before her, if the Ladies knew I were **sticke free** they would teare me in peeces for my company. (OED; *stick-free*, adj.)

14. Daniell scaped **scotchfree** by Gods pouidence. (OED; *scot-free*, adj.)

15. Men neyther shrinke, nor shrike, that their Cloathes are beaten, or rent, when they perceiue their Bodies **pierce-free**, or paine-free. (OED; *pierce-free*, adj.)

16. To clear my self **thought-free** from any promise. (OED; *thoughtfree*, adj.)

17. First, of the absolute prohibition of exporting wool from England: secondly, of the permission of importing it from Spain, **duty free**: thirdly, of the prohibition of exporting it from Ireland to another country but England. (CLMETEV)

18. The Fowl and Gibier are **Tax free**. (OED; *tax*-free, adj., special combination in *tax*, n.)

19. They walk, **fancy-free** in all sorts of maiden meditations. (OED; *fancy-free*, adj. in *fancy*, n.)

20. In winter, a great many vessels resort to the **ice-free** port of Flussingen. (OED; *ice-free*, adj., sense 1).

21. Mental cultivation--enlarged knowledge--elements of science--habit of thinking--exercise of **judgment--free** and enlightened opinion--higher grade in society--were terms which they were to be reverently cautious of taking in vain. (CLMETEV)

22. We..wander..as happy and **care-free** as two Adams in a Paradise without Eves. (OED; *carefree*, adj.)

23. Although I have done my best to ensure that the text you read is **error-free** in comparison with an exact reprint of the standard edition--Macmillan's 1910 Library Edition--please exercise scholarly caution in using it. (CLMETEV)

24. Checking devices to ensure **error-free** tapes. (OED; *error-free*, adj. in *error*, n.)

25. We pray that we may speedily return safe and **scot-free** home. (PPCMBE)

26. Do as much for this fellow, and thou shalt pass **scot-free**. (OED; *scot-free*, adj.)

27. A France **spell-free**, a Revolution saved. (OED; *spell-free*, adj. in *spell*, n.)

28. It is proverbial that they adopt to a large extent the colour of their surroundings; and seen from above at a high angle, with the black, **foam-free** sea behind, the iceberg must have been almost invisible until the Titanic was close upon it. (CLMETEV)

29. A cup to Jove, and a cup to Love, And a cup to the son of Maia; And honour with three, the band **zone-free**, The band of the bright Aglaia. (CLMETEV)

30. The mine..is nearly 700 feet above the level of the valley, and must therefore always be **level-free**. (OED; *level-free*, adj.)

31. The Gallery (**admission free**) is open from 11am on Mondays to Saturdays throughout the year. (BNC)

32. When you buy a holiday from a U.K. Travel Office we'll take care of all your holiday needs — and you'll get **commission-free** Travellers Cheques. (BNC)

33. It is not an easy, **cost-free** ride, but it is the constant working out of our hopes and fears. (BNC)

34. Iceland would retain control over its fisheries but allow an EC catch of 3,000 tonnes redfish equivalent, in exchange for some access to EC waters and **customs-free** market access for 97 per cent of its fisheries products by 1997. (BNC)

35. **Interest-free** loan offer for new car buyers. (BNC)

36. Withdrawals can be made **penalty free** if 90 days' notice is given; instant access means 90 days' loss of interest. (BNC)

37. These benefits include **rate-free** privileges and industrial building allowances against tax, while planning procedures and red tape will be kept to a minimum. (BNC)

38. Sun put out the wire to its community describing Sparc as ‘an open evolutionary process … the only cooperatively-developed, **royalty-free** architecture in the world.’ (BNC)

39. With trade diversion, the initially preferred tariff-laden imports from third countries are replaced by **tariff-free** imports from within the CU. (BNC)

40. Fragile and heavy garments are best stored flat on a dust-free shelf or, ideally, in an **acid-free** cardboard box. (BNC)

41. His glossy, clean, well-organized world, that **acne-free** world of snowy white clothes, gleaming kitchen surfaces and smiling, happy families[…]. (BNC)

42. While consumer demand is for ‘natural’ and ‘**additive-free**’ products, manufacturers have to seek out ways of making food last as long as possible, so irradiation is being promoted as a more viable alternative for prolonging shelf life in the future. (BNC)

43. They bring anxiety about venues and dates into what is essentially a calm and **anxiety-free** activity. (BNC)

44. […] Kit garages come with a choice of either pitched or flat roofs, formed from corrugated or ribbed sheeting (usually **asbestos-free** fibre cement) on less expensive garages. (BNC)

45. The education service — will have major tasks to fulfil in vocational training to prepare future employees and citizens for a **barrier-free** Europe. (BNC)

46. Regular home care and the occasional ‘luxury touch’ of a professional treatment will keep most backs **blemish-free** and looking good. (BNC)

47. New, visa and **bureaucracy-free** passports, are not yet freely available. (BNC)

48. Now, this particular tea is guaranteed one hundred per cent **C11H17NO3 free**. (BNC)

49. Actomite is an easy-to-use, effective, **CFC-free** spray which destroys House Dust Mites, their larvae and eggs. (BNC)

50. For those with severe chemical sensitivity, creating a **chemical-free** ‘oasis’ in the house can be very valuable. (BNC)

51. As **chlorine-free** alternatives become commercially available they will be used in appropriate units. (BNC)

52. This is the first stage and work on developing **chromate-free** coatings will continue. (BNC)

53. After a **claim-free** year, even with another company, they offer a 25% no-claim discount on their Bonus 25 policy. (BNC)

54. Experiments by Gibble and Chu now confirm this, so that continuous recalibration through extrapolation back to **collision-free** conditions may be necessary. (BNC)

55. This kind of view is reasonably common in managerial literature, which attempts to come up with training and motivational techniques for dealing with conflicts which arise in what are seen as potentially ‘**conflict-free**, organisations. (BNC)

56. And throughout we've made the corners rounded and the joints **crevice free**. (BNC)

57. The idea that the 1930s was a **crime-free** era is a myth. (BNC)

58. Meandering hills of classic beauty and **crowd-free** towns. (BNC)

59. The group recently opened a shop in Birmingham selling only **crueltyfree** products. (BNC)

60. Tektronix Inc. claims that one high-performance team now makes as many **defect-free** products in 3 days as the whole assembly line used to make in 14 days with twice as many people. (BNC)

61. [...] therefore is not constrained by the need to adhere to liquidity, solvency or capital adequacy regulations (given that funds are backed by the Treasury and are therefore essentially **default-free**). (BNC)

62. If you need a drink, dip a mug over the side — the water is **disease-free**. (BNC)

63. However, camcorders vary considerably in this respect, and many of the newer ones give virtually **disturbance-free** pictures at any playback speed from fast to slow. (BNC)

64. Were orderly, **dope-free** communes and tolerating authority the right way to fight the system? (BNC)

65. To insist that only **doubt-free** faith can be counted as genuine faith is to misunderstand what knowledge and faith are. (BNC)

66. Remember, though, no-one gets handed a medal for having a **drug-free** birth, but it's still quite a good goal to aim for. (BNC)

67. The glass must be thoroughly cleaned and made **dust-free**. (BNC)

68. Ministerially his experience was minimal: four years in junior office, nineteen months as a notably silent President of the Board of Trade, seven difficult and chastening months as Chancellor, and then an **effort-free** but unexpected arrival in 10 Downing Street.(BNC)

69. Questioned more closely on how he gets his sound — for instance, the mind-boggling tone for the slide solo on the Pahinuis' versh of Steve Earle's My Old Friend The Blues — it becomes more and more apparent that the unassuming, virtually **ego-free** Mr. Cooder is far happier discussing musicians other than himself […] (BNC)

70. Mr Wheeler, an engineer who worked for many years in the oil business, is a pleasant, slightly worried-looking man who cannot bear the fact that no one seems

to realise just what lengths he goes to in order to keep the plant squeaky clean and **emission-free**. (BNC)

71. Blood for endotoxin estimation was aliquoted into sterile and **endotoxin free** borosilicate glass tubes containing heparin 20 IU/ml and immediately stored in ice until centrifuged. (BNC)

72. **Flea-free** pets. (BNC)

73. It is not a totally **frustration-free** hobby though, and there are two main problem areas. (BNC)

74. 'Whether you want a **fuss-free** dish or something a little more special — try these dishes — they take just a few minutes to prepare,' says cookery editor, Felicity Salter. (BNC)

75. I am committed to revolution too — for a hate-free, fear-free, **greed-free** world. (BNC)

76. Oh, would one come, that could prove me **guilt-free**! (BNC)

77. You will stand a far greater chance of giving yourself a **hassle-free** journey if you leave your trusty vehicle at home. (BNC)

78. He made a commitment, between himself and God, — ('No man asked me to do it') — to take up his father's goal, 'a **hate-free**, fear-free, greed-free Africa, peopled by free men and women. (BNC)

79. Many areas that appear to be **hazard-free** on current maps may merely by passing through a temporary period of quiescence. (BNC)

80. Overall 19.1% were judged to be infected at the time of the survey, namely 9.9% community-acquired, i.e. present on admission, and 9.2% hospital-acquired, i.e. **infection-free** on admission and contracted infection as a direct result of hospitalisation. (BNC)

81. Have a wonderful holiday and stay **injury-free** — The Doc. (BNC)

82. No adjustment is needed for **lead free** fuel. (BNC)

83. Mercury is added to the cup t, to ensure a **leak free** system, and the osmometer is left undisturbed in a thermostat bath controlled to ± 0.01 K to reach equilibrium. (BNC)

84. The Renault Safrane presents itself as an executive express, so this was an appropriate exercise, involving poorly-surfaced roads in Czechoslovakia, the smooth by-ways of Austria and Switzerland, and Germany's **limit-free** autobahns. (BNC)

85. Apply your first coat of varnish or seal with a **lint-free** rag, working it well into the timber. (BNC)

86. KEEP OUR PARKS **LITTER-FREE** (BNC)

87. The chain is pre-packed with grease and virtually **maintenance free**. (BNC)

88. Once the landing points had been selected, the navies had to escort the assault troops' ships to their dropping zones, sweeping **mine-free** passages for both LSIs and assault craft. (BNC)

89. By using the **needle-free** injector, the treatment was rapid. (OED; *needle-free*, adj.)

90. The idea for such an ambitious (but surprisingly **nightmare-free**) project was first mooted in 1989 when Professor Dai came to Norwich to attend a post-graduate degree course in tourism. (BNC)

91. The first, and simplest method, is the regular water change with **nitrate-free** water. (BNC)

92. This **noise-free** holiday and sports region is a great favourite with the Swiss themselves. (BNC)

93. In 1982, all Welsh County Councils had declared their intention to become '**nuclear free**'. (BNC)

94. As a result I had a very pleasant, stress-free, **pain-free** labour and delivery. (BNC)

95. A spokesman for the Soil Association, which monitors organic farming, said that the production of wholly **pesticide-free** food was impossible [...] (BNC)

96. Extraordinarily, there are also some **phylloxera-free** patches existing in infested regions. (BNC)

97. Sloosh twice a day after brushing to get to all the areas your toothbrush can't reach and make your mouth a fresh, clean, **plaque-free** zone. (BNC)

98. Natural infection may have also contributed to the high seroprevalences in the IPV group 13–17 months after vaccination, although evidence from previous studies in **poliomyelitis-free** areas suggests that this finding is more likely to be due to brisk secondary responses in children who had been primed with OPV and who later received poliovirus antigen parenterally in the form of IPV. (BNC)

99. The trolleybus's major advantages are that it is quiet and **pollution-free**. (BNC)

100. Maintenance in the Same should be **problem-free**. (BNC)

101. Endotoxin stock solution was diluted with sterile **pyrogen-free** water to give standards of 0.1, 0.25, 0.5, and 1.0 endotoxin units/ml (BNC)

102. He says that it would be a ste backwards — Britain is still **rabies free**, other parts of Europe aren't. (BNC)

103. However, according to Joan, there is an even better, **risk-free** option. (BNC)

104. A rigid brown, **rust-free** aluminium tube, pointed at one end, with two arms of galvanised wire at the other. (BNC)

105. A leading microbiologist says people should only eat eggs from **salmonella-free** flocks. (BNC)

106. Sex, from being a good, companionable, **shame-free** relationship, becomes secretive, lustful, anomalous. (BNC)

107. I have changed to lighter line because the swim is **snag-free** and I will be able to trot with greater control with this thinner and easier-running line. (BNC)

108. The water based polymers, mainly styrene and acrylic resins, allow the textile, ink and graphic art industries to move to **solvent-free** methods. (BNC)

109. It encourages rapid draining and gives a clear, **streak-free** finish. (BNc)

110. Even for old conservatives, though, a return to central planning carries no guarantee of a **stress-free** future. (BNC)

111. Such land could, in theory, be used to produce up to 30 million tonnes of fuel, with further advantages of biodiesel being its **sulphur-free** composition, its "extremely positive" energy balance, and its price competitiveness provided it is tax-free. (BNC)

112. ‘I loved the smell of this treatment and after just five minutes, my hair felt very soft and **tangle-free**. (BNC)

113. Handling of the wounded tissue has to be very gentle and non-traumatic and the knot has to be placed **tension-free**. (BNC)

114. Without the **traffic-free** tranquillity of the town centre, none of them would have been noticeable. (BNC)

115. We had to ensure that all working surfaces were hygienic and dirt **trap free**, and that food could be transported without spilling. (BNC)

116. The detector has active anti-condensation protection to assure **trouble free** operation in cold-rooms. (BNC)

117. Eight months later, the patient is well and **tumour free**. (BNC)

118. The figure illustrates the cumulative **ulcer free** survival curves of patients randomised to each drug. (BNC)

119. Disknet effectively stops this from happening, by ensuring that each floppy disk is **virus free** before use. (BNC)

120. Their superior methods of **waste-free** — what a fine new book* calls 'lean' — production and close relations with suppliers cannot work across oceans. (BNC)

121. On Wednesday, US aircraft dropped 200,000 leaflets in the Kismayu region as a reminder that the area was a '**weapons free** zone.' (BNC)

122. The soil between the long rows of vines is kept **weed-free**, so this early in the year the hills look rather bare. (BNC)

123. TOYOTA'S 'TERMS' scheme sums up what the manufacturers say they are offering — '**worry-free** motoring on a low, no hidden extras, fixed monthly budget'. (BNC)

124. In goodwill tours of the Six Countries he has been heard to ask for alcohol-free lager and other exotic drinks. (BNC)

125. During the recent European Community elections the representatives of EC governments promoted the ideal of a **border-free** Europe by 1992. (BNC)

126. Bonds made in this way are extremely transparent, **bubble-free** and introduce no dimensional errors into final lapping. (BNC)

127. What I really love about these guitars — the 12-strings especially — is that they've been set up with the lowest, most **buzz-free** actions imaginable. (BNC)

128. A SCIENTIST is trying to grow **caffeine-free** coffee beans. (BNC)

129. Drink plenty of water and **calorie-free** drinks. (BNC)

130. However, most cities now have some **car-free** space in the form of arcades, converted streets or purpose-built pedestrian precincts. (BNC)

131. Amazingly **Chalk Free** So is soft touch detection a dead art [...] (BNC)

132. MASTERCARD AND **CHECKFREE** TEAM TO PROVIDE REMOTE BANKING SERVICES (BNC)

133. Alexander was born nearly four months early while Alison and husband took what they thought would be a final **child-free** holiday in to Florida. (BNC)

134. Acoustically, there is enough zing to brighten up even your darkest hours of noodling and the neck is remarkably **choke-free** considering the fingerboard's 7½ inch ‘vintage’ radius. (BNC)

135. When the meal is over we notice that the sky is clearing; now there is enough **cloud-free** sky to show that the Northern Lights are out. (BNC)

136. **Cholesterol free** Varieties: include beans n' toast, bubble and squeak, vegetable stroganoff and Lancashire hot pot. (BNC)

137. Provide **dog-free** areas and support anti dog-fouling bye laws. (BNC)

138. Using a system of this type allows a warm **draught-free** area, but one provided with adequate ventilation. (BNC)

139. For diehard election party-poopers, however, there is still time to book into the **election-free** break being offered on Lundy Island, the National Trust's island in the Bristol Channel. (BNC)

140. NORTH and Mid Wales is set to be a **European-free** zone as the South dominate the new Konica League. (BNC)

141. I am becoming what I eat — **fat free**! (BNC)

142. **Filter-free** rarities. (BNC)

143. Finally, ImageSync automatically tunes to the refresh rate of certain NEC MultiSync monitors, providing **flicker-free** images. (BNC)

144. Developed for three skin types, the cleansers, toners and moisturisers are all pure and **fragrance-free**. (BNC)

145. Ensure the store is **frost-free**. (BNC)

146. A **gluten-free**, milk-free diet produced fewer symptoms in some schizophrenics, while feeding extra gluten made the symptoms worse. (BNC)

147. In the present context, this amounts to having a market economy outcome and imagining what would happen if there were a mixed economy or, alternatively, imagining taking government activity out of a mixed economy to produce a market- or **government-free** economy. (BNC)

148. In all cases, the glass should be thoroughly clean and **grease free** before sandwiching the peel and binding the edges with adhesive plastic tape. (BNC)

149. The Gyda platform should be **Halon-free** by the end of this month on completion of the installation of the BP fine water spray [...] (BNC)

150. It's not just a '**hands-free**' mobile, but an 'eyesfree' one too. (BNC)

151. So I did need gravel which was totally **hardness-free**. (BNC)

152. However, the unit is intended for use out-of-doors when it should provide '**hum-free**' operation. (BNC)

153. Such cements are, however, typically **inclusion-free** (or, at least, inclusion-poor) and thus, with care, may be distinguished from the parent grain. (BNC)

154. Choose a close-grained timber that is **knot-free** and relatively easy to carve. (BNC)

155. Soya milk is **lactose-free**. (BNC)

156. Pot the tubers with their crowns exposed in a **loam-free** potting compost. (BNC)

157. Two years later she is still very healthy on a **milk-free** diet, and no longer suffers from depression. (BNC)

158. Undoubtedly, there must be **outboard-motor-free** boats on Moorea, but I could not find any which were nicely placed against an unspoiled backdrop of palms, beach and sky. (BNC)

159. The cool, **oil-free** lotion, they say, instantly lifts beard hairs while protecting the skin against irritation. (BNC)

160. I enumerate here the more important new results whose authorship, I think, I may ascribe to myself. They are as follows: i. The **parenthesis-free** notation of expressions in the sentential calculus and in Aristotle's syllogistic. (OED; *parenthesis-free*, adj.)

161. More than half buy no peat at all and six county councils have set up schemes to produce **peat-free** compost. (BNC)

162. The treatment, in the case of phenylketonuria, is to put the baby on to a **phenylalanine-free** diet, thus bypassing the metabolic block [...] (BNC)

163. The world of Christian faith is not a fairy-tale, make-believe world, **question-free** and problem-proof, but a world where doubt is never far from faith's shoulder. (BNC)

164. If you listen to the recordings via headphones, they will be totally **reverberation-free**. (BNC)

165. Mosaic is a small pebble effect, in five duet-tone pastel colourways, available in a 2m width to allow a **seam-free** fit in most bathrooms. (BNC)

166. The chart itself should be hung on a well-lit, **shadow-free** wall at a distance of six metres from where the subject stands. (BNC)

167. 'It should be done on the basis of the right of non-smokers to breathe **smoke-free** air, but wherever possible taking account of the needs of those who smoke.' (BNC)

168. They will grow only in particular soils that are unleached and **stone-free**. (BNC)

169. By its very nature, faith rests and must rest in a '**storm-free** territory' which mere historical consideration and reconsideration cannot in any way disturb. (BNC)

170. Buy cereals that are not sugar-coated and **sugar-free** museli. (BNC)

171. It is the mark of good management: a **surprise-free** environment, prepared or braced for the unexpected. (BNC)

172. **TOOL-FREE** CONNECTIONS Simple hand tightening to give a permanent leak-proof seal [...] (BNC)

173. '**Tory-free** zone' and the case for constitutional change unanswerable. (BNC)

174. If the paddocks can be topped and harrowed after each grazing, a more even, **tussock-free** sward can be maintained. (BNC)

175. The design supports the use of leading-edge **wait-free** multi-processing algorithms. (BNC)

176. How do we know that Dicke was convinced of the beneficial effect of **wheat free** diet even before 1940? (BNC)

177. Lovely little mock Tudor semis in the **wog-free** suburbs. (BNC)

178. There was a gentle, left-right shuffle, then it resumed **yaw-free** flight. (BNC)

179. The cells were grown in **antibiotic free** medium for two days to give a semiconfluent monolayer of cells on each coverslip. (BNC)

180. However, in the pond, the aim to produce clean, algae-free water rather than a completely sterile, **bacteria-free** environment. (BNC)

181. In order to determine if this had occurred, the **biopsy free** leucine enrichments were measured and compared with the plasma free leucine enrichment at the time of taking the biopsy. (BNC)

182. [...] Marshal Dmitri Yazov, had opposed all proposals which did not endorse a united Germany as part of "a **bloc-free** European collective security system". (BNC)

183. Incubate embryos (without their zonae) for approximately 10 min in **Ca2+-free** M2 + 6 mg/ml BSA (Table 5) under oil at 37-C in air. (BNC)

184. Fibroblasts and KC (cultured in low-calcium medium) were detached from culture dishes after incubation in **calcium-free** HBSS, 2mM EDTA and were washed in HBSS with calcium, stained for cadherins and analysed by flow cytometry. (BNC)

185. Here we report measurements of electrical conductivity at high temperatures and pressures on samples of carbon-bearing and **carbon-free** granulites with a range of electrolyte saturations. (BNC)

186. **Carrier free** Na1 was from Amersham (Buckinghamshire, UK). (BNC)

187. This suggests that some mechanisms modulating cGMP production whole cells cannot be activated in **cell free** systems. (BNC)

188. Database programs are often described as empty shell, **content-free** and cross-curricular software. (BNC)

189. They represent the classic disproof of their own claims for the detached and **context-free** qualities of writing. (BNC)

190. Clear, **crystal-free** convection layer forms above the sedimenting layer which forms a density-graded layer. (BNC)

191. Richard Downes and Thomas Roper A **dialogue-free** performance combining movement and sculptural elements. (BNC)

192. The sections were collected onto gelatinized glass microscope slides, air dried, post-fixed in 70% ethanol for 10min at -20°C, and stained with propidium iodide (4µgml -1) in minimal Eagle's medium buffered with HEPES (MEM/HEPES) and containing **DNase-free** RNase A (100µgml -1) for 30min at 37°C. (BNC)

193. The Scottish Lands Tribunal recently awarded £560,000 to ScotRail chairman John Cameron, who was prevented from planting Glen Lochay, the last **forest-free** glen in Perthshire, with conifers, An attempt by the Crown Estate to buy 77,000 acres of Scottish wilderness containing the four highest mountains in Britain and several endangered species has failed. (BNC)

194. In conclusion, cholesterol gall stone patients produce less metastable hepatic bile compared with **gall stone-free** patients proved by the shorter nucleation time. (BNC)

195. A holiday in a **gas-free** house is the best way to test if gas is a problem. (BNC)

196. The technique of panning, therefore, is to cause the gold to sink in the pan by jiggling it about and washing the **gold-free** surface gravel out over the rim of the pan. (BNC)

197. of adhesion molecules and MHC class I and II, and upregulating **macrophage free** radical production. (BNC)

198. J. T. Baker has added phosphoric, sulphuric and perchloric acids to its list of ultra high purity acids which are manufactured and packed under **metal-free**, clean room conditions. (BNC)

199. This is a typical feature of **methylation-free** islands, which are present at the 5' end of a large number of genes (7,8). (BNC)

200. Moore's argument was based on: (a) The lack of pigment in the fresh shell of dogwhelks transferred from mussel-rich shores in North Cornwall to mussel-free shores around Plymouth (or when kept in **mussel-free** aquaria) [...] (BNC)

201. Nucleotides (including 3'-O-methylnucleotides, primers; ApU and GpA and ribonucleotides), E.coli RNA polymerase (nuclease free), BSA (**nuclease free**) and ribonuclease inhibitor (human placenta) were purchased from Pharmacia. (BNC)

202. Fasting gall bladder volume had virtually doubled from 42.1 ml in **octreotide free** conditions to 81.5 ml after two weeks of CSOI. (BNC)

203. These data together show that indomethacin scavenges **oxygen free** radicals. (BNC)

204. My prototype reminds me too much of a kingsize white plastic bucket, and I suspect that a combination of this summer's largely **ozone layer-free** sun and a winter frost or two might render it brittle. (BNC)

205. The open-form torsion angles are observed values for the **phospho-free** state of HPr; the closed-form torsion angles of Ala16 are for the modelled phosphorylated state of HPr. (BNC)

206. This assumes that the **plasma free** amino acid pool is representative of the precursor for pancreatic enzyme synthesis. (BNC)

207. In support of this suggestion the same workers (Shattil et al, 1977) found that platelets from patients with Type 2 hyperlipoproteinaemia had a higher cholesterol/phospholipid ratio and other workers have found an elevated **platelet-free** cholesterol in patients with the same condition (Miettinen, 1974). (BNC)

208. The technique has a host of medical and industrial applications, because bacteria cannot colonise a **protein-free** surface. (BNC)

209. Pellets were redissolved in 5 µl of **RNase-free** water. (BNC)

210. They complained that, with the Georgian media in the hands of **Round Table-Free** Georgia, they had been maligned personally and their platforms ignored. (BNC)

211. Cells (50000) in **serum free** medium were added to each coated well and incubated for various times at 36°C. (BNC)

212. JOHN PARROTT headed home last night to enjoy a **snooker-free** Christmas while James Wattana began his preparations for a Coalite World Matchplay semi-final debut. (BNC)

213. Both species feed mainly on birch seed in winter, finding it respectively on **snow-free** areas of the tundra and in the sub-boreal forests. (BNC)

214. A few colonies of the fungus can often be grown from the vagina of a completely healthy and **symptom-free** woman. (BNC)

215. It provides a windowed user interface, non-procedural proprietary language, procedural language, reporting and data management facilities, a developer's workbench and a **syntax-free** reporting front end. (BNC)

216. The lateral membrane and the central membrane are two variations of the pneumatic press, the principle being the same for both: the membrane is a long and large **taste-free** rubber balloon which inflates when the press is full, gently crushing the grapes against the inside of the horizontal cylinder which has channels and ducts. (BNC)

217. The constant trickling from various ‘water features’ — intended to drown the sound of the trains in Charing Cross station below — is having a bladder-bursting effect on visitors, so much so that clients have their own **water-free** waiting area. (BNC)

218. It was the first suitable **wind free** morning since they had reached first jump status, and this was it. (BNC)

219. Any decisions made about allocations are not **value-free** but are now based on the original assumptions about the weightings. (BNC)

220. There is also the miogeosynclinal trough, with its **volcanic-free** quartz sands and carbonates. (BNC)

221. Rohm and Haas has introduced a new range of floor polish polymers which are **zinc-free** and thus free of the high levels of ammonia required to complex the zinc. (BNC)

222. This technique involves nudging two or more **zona-free** 8- to 16-cell embryos together in culture until they stick together. (BNC)

223. Instead they do so indirectly, by appealing to the supposed intrinsic and **culture-free** nature of literacy. (BNC)

224. If you are **heart-free** and not at all stuck in your ways, then 1993 could produce the most stunning liaison. (BNC)

225. At the conclusion of this section, it may be noted that Ferrari and Ibañez (1988) have shown that the **shear-free** principal null congruences associated with this type D space-time do not focus on the horizon. (BNC)

226. As in a normal environment, an individual in a **time-free** experiment will show a very similar pattern of eating day by day. (BNC)

227. We investigate these laws and, by discovering a normal form for **while-free** programs, show that they completely characterise the language's semantics. (BNC)

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